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WHAT would probably have formed a leading case on the interesting question of the proper commission to charge for unexecuted work has unfortunately been compromised before a jury. Not only the circumstances are interesting and comprehensive, but the standing of all parties concerned and the amount of the claim make the case an important one. The case is that of Robert Kerr, Professor of Architecture at Kings College *vs.* Lieutenant-Colonel Miles Sandys, and was heard before the well-known Baron Huddleston in the Queen's Bench Division. A professional man hardly ever appears before a judge and jury without prejudicing his case, either by the apparent unreasonableness of his claim, or by his inability to answer simple business questions in a comprehensible and practical manner. In the present instance, the case was complicated by the presentation of three separate accounts, varying between sixty-three hundred and eighty-four hundred dollars, each confessedly computed on different total amounts, and a different distribution of percentages adopted for each, and we do not wonder at the exhibition of some little exasperation on the judge's part when an architect, giving evidence for the plaintiff, declared that the charge was a proper and fair charge. This led the judge to ask: "To which do you refer as fair?" "I do not know." "Is the first bill for £1269 fair?" "Yes." "Then is the second bill for £1694 fairer, and the third claim for £1541 fairest?" "I do not know which is the fairest bill. A charge for alterations to plans depends on the trouble occasioned. A charge of two and one-half per cent for plans and alterations is a maximum." His Lordship: "A maximum with architects is, I expect, as much as you can get." From such evidence as this we do not think Professor Kerr could expect much help, and we feel he was very lucky in having his case heard before a jury who, just at this point, announced that they considered the £950 that Colonel Sandys had paid into court at the opening of the case was all that the plaintiff could hope to recover.

THE history of the case is this: In 1882 Colonel Sandys asked Professor Kerr to examine Graythwaite Hall and report what alterations were advisable. For this report the architect was to receive "whatever the other pleased to pay him." The report being apparently unfavorable, the architect was then instructed to prepare designs for a new house, but no limit of cost was named until the cost of this first design had been arrived at by the process of "cubing"; £20,000 was then named as the sum the client was willing to spend on the house, stable and out-buildings. During the next year another architect suggested certain alterations, and Professor Kerr embodied them in a new design, and subsequently repeated this operation; indeed, he claims to have entirely recast the design five times before the client, in 1884, professed himself perfectly satisfied, and asked for such a bill of quantities as should, with the drawings and specifications, enable his successor — for Colonel Sandys by this time had abandoned the idea of building himself — to carry out the design which had met the approval of his ancestor. At this point the architect's bill was asked for, and the client was not unnaturally startled at the charge for "mere work on paper"; still, as he had some inkling of professional custom, he was ready to pay two-and-one-half per cent on the sum named by him as the limit. The architect, however, considering the unusual amount of work, and the length of time over which it had extended, thought a charge of two-and-one-half per cent for drawings, one per cent for the report, and one-half of one per cent for the quantities computed on the estimated cost of some £28,000 was only reasonable, and if he had only stuck to this, the case might have been fully heard. Unfortunately, he shifted his ground, and sent in subsequently two different accounts, computed in ways each of which he asserted to be in accordance with professional usage, and yet, when analyzed, a discrepancy of £351 was shown to exist between the charges for quantities in two of the accounts. This juggling with figures was very maladroit, to say the least, and if the jury had expressed the opinion that Colonel Sandys should pay only two-and-one-half per cent on £20,000, we think no one could have upbraided them. As to the propriety of the charge made for the quantities, it appeared that while two per cent is the usual charge for complete and accurate quantities, Professor Kerr, as only approximate quantities were needed, bargained with a surveyor to take them out at five shillings per hour, himself and his son assisting in the task. The surveyor testified that he did about half the work and was paid forty pounds; that is, he would have done the entire work for about one hundred pounds. Yet we find that the least charge made against Colonel Sandys for quantities was £215, while the largest charge was £566, which strikes us as rather a long profit.

TO our mind, archæological research is of a somewhat doubtful practical value, though many of the results so laboriously attained are unquestionably interesting, and a few of them useful. The investigations of Schliemann, Marriette, Maspero, Brugsch, Leyard, Pettrie, and a host of others, have done much to confirm or disprove history, so far as it rests on imperfectly-recorded legends, and all unite in discovering testimony which, to a certain extent, discredits Bible history, so far at least as dates are concerned. We do not recall just how far back the researches of these Eastern explorers has placed the formation and peopling of the world, but we question if any of them have succeeded in moving the date of the beginning of mundane affairs quite so far back as has Dr. Le Plongeon, who, with his wife — even a more helpful spouse than the devoted Mrs. Schliemann — disinterred, not long ago, the heart, still transfixed with the flint spear-head that killed him, of Koh, king of the Mayas more than eleven thousand years ago, the Mayas being at that time a comparatively civilized race. The history of Koh is interesting, and the events which followed his death Dr. Le Plongeon believes gave rise to the myth of the temptation of Eve by the serpent, the serpent being the totem, as it were, of the Mayas. It was the law of the country that to preserve the purity of the royal descent the youngest son of the ruler should marry his oldest daughter. Koh was the youngest son, and dutifully married his sister Moo, but, unfortunately, another brother, Aac, was in love with this sister, and, urged by jealous revenge, ran his spear through his brother's heart. Then, having smoothed the path of courtship in this summary way, he sought his sister's hand after the manner of the country, by sending messengers with gifts of fruit and flowers, the acceptance of which by Moo would signify the acceptance of his suit. But Moo seems, on the testimony of a mural painting, to have remained faithful to her young brother-husband, for she is there shown rejecting the offered fruits, while a serpent in a tree gazes thoughtfully at a macaw (the symbol of Moo), to observe whether she will yield to the temptation. The woman, the fruit, the serpent and the temptation being thus present, Dr. Le Plongeon professes to find in them the originals of the myth of the Temptation, which makes its appearance in the legendary sacred history of other nations.

DR. LE PLONGEON takes a very pronounced and advanced stand as regards the discoveries he has made, and he certainly has found both direct evidence and credible analogies to give him no infirm support in his theory that the

Mayas are not only the oldest people still inhabiting the earth, but that they are the parent stock, from which the nations of the East are descended. In short, that instead of being a colony which had wandered across the seas or down the coast from Alaska, as some theorists maintain, the Maya race sent out the colonies which settled the other nations, which we have so long been taught to believe are the oldest. To be able to accept his conclusions, one must read the published accounts of his explorations and follow his arguments as he translates hieroglyphic tablets and explains their analogies with the similar records on Egyptian monuments; must attend closely as he interprets the meaning of the mural paintings and points out their similarity with the historical legends of other countries; must try to understand his philological deductions which make it appear that the Maya speech, a live language yet, is coeval with, perhaps anterior to, the Sanscrit, and above all must be capable of understanding the arguments he bases on the religious customs, the structures in or on which the rites were celebrated, and the monuments, sculptured and architectural, that offer evidence to him who can understand them. The claim thus made is certainly a wide one, and whether it can be supported or not can only be determined by other investigations. At any rate, the Central American territory affords a richer field for the adventurous explorer than that which is worked in the old world — we will still call it so. Dr. Schliemann and his compeers are to a certain extent assisted by the fairly-definite information contained in the works of early writers, but we question whether they would have achieved in Yucatan the same results that Dr. Le Plongeon has arrived at: it seems as if the possession of instinct and not learning were the first requisite for success there. It is a pity that Mr. Lorrillard's example in sending M. Charnay on an exploring expedition in Central America has not been followed by other private individuals or newspapers, if Government itself is indisposed to act.

PEOPLE still talk — we trust they will long talk — of Mr. Richardson and his works and the great good he did, not only to the architecture of the country but to the members of the profession as they stand before the public by showing to the world, in language easily understood, that an architect is, or may be, a man who can use building materials as they cannot be used except by an artist. The latest remarks on the man and his career that have come under our eye are those of such widely different men as Henry Irving, the actor, and Charles Francis Adams, Jr. Mr. Adams, at the Harvard Commencement, suggested that as the Memorial Hall was, or ought to be, the Walhalla of the University, and that a Harvard man or his friends could desire no more grateful memorial than a place on its walls, it would be a fit recognition of the services which Mr. Richardson had done to the University and the country at large, to hang on the walls the portrait of him which Mr. Herkomer had recently painted. We do not know how the family would feel about parting with the portrait, but the idea strikes us as a good one for the rest of the world, and in the vast hall the portrait, which is at once strong and sketchy in treatment, might develop merits which those who have seen it in smaller rooms have been disposed to deny it. We understand that it is Mr. Herkomer's desire to make an etching after the portrait—and he promises to make it the best he has ever made.

M. CHARLES GARNIER had the good fortune once on a time to build the Nouvel Opèra at Paris, and was at once hailed a great architect, and though his subsequent work has, so far as we know it, not been just what one expects from a great architect, this may have been because proper opportunities were lacking, not genius. Having always suspected that M. Garnier was a bit of a *poseur*, we turned with much interest to the response he made when recently the Royal Gold Medal for Architecture was bestowed on him, nominally by the Queen, actually by the President and Council of the Royal Institute of British Architects. The occasion was one when, from the lips of a French architect of high rank addressing a large body of English architects, one might expect to hear something a little more serious than, for instance, the frothy nothings which constitute an after-dinner speech; but the opportunity seems not to have been perceived by M. Garnier, whose remarks were, when not mere *banalités* — the English language is weak by lack of this most effective word — delightfully egotistical. In rehearsing his early career, M. Garnier recounted, among other things, that when, after having passed the allotted time at the Villa Medici which falls to the winners of the Prix de Rome, he returned to Paris, he found himself in straightened circumstances, and with no chance of obtaining work. Just at that time Her Majesty Queen Victoria chanced to visit Paris, and the Prefect, desiring to do her honor, gave a great ball at the Hôtel de Ville, and to prevent the affair becoming a merely evanescent memory presented her with an album of water-colors, representing the various halls of the great building in their gala array. It was the fortune of M. Garnier to be commissioned to make two of these water-colors, and of this little incident he made the most, saying that he considered the queen his first client, and that to her he owed all his future success. It seems as if some of his English hearers must have wondered on hearing this if he had ever styled himself, after the familiar English mode, "water-colorist to the queen."

"ONE'S own children are always the prettiest," and if a man's name happens casually to appear in print he is pretty sure to think that this phenomenon makes as much impression on the rest of the world as it makes on himself; but if the man himself, his words or his actions are the subject of serious discussion in the public prints there is a real reason for his feeling that the eyes of the world are turned upon him. If this is a reasonable deduction in the case of an individual it seems as though it would be equally just in the case of a class or profession. The criticism, whether favorable or unfavorable, becomes only more worthy of respect and attention when it is made by a competent critic, a member of the same profession, or a body of fellow professionals. Dr. Freeman was, perhaps, the first critic who, in our own day, that is, since the latest development of our architecture began, discovered that the work of American architects was worthy of respectful consideration, and in the last few years many another has had occasion to say encouraging words of our work, and in many cases to hold it up for the admiration and emulation of architects in other parts of the world. Until lately our work has been so much influenced by English fashions that it is not strange that English architects have not been impressed with the slight external differences which climatic requirements or national habits have led us to make in *motifs* which were unquestionably imported from England by means of the English architectural journals. The English travelling architect has had his attention drawn rather to our modes of construction, and he has, of late, been very free to acknowledge that in the field of constructive science we have developed many excellent methods unknown to him. On the other hand, the French architect, though a rare visitor in his proper person, finds in our architecture as it is delineated in our professional journals much in the matter of design and plan which is as worthy of consideration as the architecture of other countries, and though we may credit something to the French habit of saying pleasant things in a delightful way, still it means a good deal when the last issue of the *Moniteur des Architectes* says, speaking of the rational way in which we treat our porches (as shown by certain sketches which it reproduces from our own pages), "See how much more logical the Americans are and how happily this feature is understood by them; this is true art in which the architect can take pride because it denotes much maturity of perception [*esprit*] and great independence of tradition." And apropos of tradition, M. César Daly says, in a late issue of the *Revue Générale de l'Architecture*, "For the Americans the traditions of Europe are like an orange which he has just sucked dry and the skin of which he is about to throw away." *La Semaine des Constructeurs*, also, in a late issue, reproduces certain illustrations from our own and the pages of the *Sanitary Engineer*. From all this it appears that American architecture is attracting as much attention abroad as it deserves. It is to be observed and remembered, however, that praise is bestowed on our work only so far as it is the manifestation of real architectural art, logical, well reasoned, the outgrowth of constructive necessities of plans which themselves are determined by national or climatic demands and the peculiarities of the building material used. Discriminating praise will do us more good than avalanches of derision launched at the eccentricities, absurdities and extravagances of our vernacular architecture.

AMERICAN ARCHITECT COMPETITION FOR HOUSE COSTING $5,000. — I.

CUL-DE-LAMPE DESIGNED BY SEBASTIEN LE CLERC.

IN awarding the prizes the Committee has considered that under the prescribed conditions the plan was of more than usual importance, and that whereas there are quite a number of plans which would make very acceptable country houses, there are but few which fulfil all the requirements. These requirements state "the children, the novelist and the outlook are the only special elements to be accounted for." The children, by a planning of nurseries or a room or rooms which can be used for nurseries, and a convenient bath-room. The outlook, by so disposing the principal rooms that the view can be obtained and as little sunlight as possible sacrificed. The novelist, by complete isolation of some sort or another. All three of these points have been much disregarded, most of the competitors apparently assuming that children are locked into their rooms for the night and do not need to have their rooms connect with that of their parent, that rooms facing the northeast need no sunlight and that the nearer the novelist is to the front door and the casual visitor the better. For this reason the plans isolating the novelist are placed first, other things being equal. This has been done in several ways, either by placing his study in the third story, as "*Birdseye*" has it, by shutting it off from the remainder of the house, as done by "*Gosh*," or by placing it on the staircase landing, as "*Charles Dickens*" has placed it, any one of which expedients is equally good according to the preference of the novelist. In regard to the limit of cost, $5,000, it seems at first glance that but few of the designs come within it, and those few have been credited with the possibility and placed accordingly; but what apparently cannot be done in some locations and under some conditions can be done elsewhere under other conditions — so that, apart from the general impression that the house needs to be cut down to as small a surface area as possible, apparent expense is ignored. There are one or two points that could be noticed, however. A basement kitchen always requires one more servant than would otherwise be needed and is consequently to be avoided in a house for people of small means. An excellent method of saving surface-area in the halls (where, by the way, there is most waste room on many of the plans), is to make back and front stairs meet on a common landing half-way up to second story and then continue in one run. This has been done only by "*Scotch Thistle*." Lastly, very few of the competitors have remembered that the house is upon a "*barren hillside*," and but little skill is shown in placing the house upon the slope.

"*Charles Dickens*." — Plan good, except that nurseries have northeast exposure and there is no west light in house. House well placed for view, but needs terrace on northeast; it has sufficient morning sun. Novelist is isolated upon level of staircase landing in a study which has no view but which has access to the library and the possibility of escape to second story. Details are good. Elevation is very good. Perspective has the fault of two equal gables unseparated. Wherever two equal gables come together at base without an expanse of separating roof the effect is not good. If they are above the same wall and on the same plane, they need a straight piece of cornice of greater or less length between them. If they are at right angles to each other, as in the present case, one of them should be subordinated to the other and made a dormer, the result being that the design will then have one simple roof with subordinate dormers and not two roofs struggling for supremacy. The west gable could probably best be made into a dormer. Rendering though good has followed too closely the faults and not the virtues of that of Mr. T. Raffles Davison, is too uncertain and sketchy all over. Good architectural rendering, no matter how sketchy it may be in parts that do not require too much attention, has at least a clearness and directness of expression in all the important features of the design, and does not leave gaps in ridges, nor leave windows without sills, so that the drawing seems like an imprint from a worn-out and well-nigh worthless etching plate. Could probably be built for the money.

"*Normandie*." — Plan has the serious objection that the study is not isolated; the novelist cannot escape visitors once admitted into the hall. The placing of house and the reasons given for it are good, and show just the sort of study that the problem demanded. Details are simple and excellent. The exterior is open to objections which would have more or less weight with different critics, but which are the usual faults of most simple so-called Queen Anne houses — that is, of most houses where the purpose is to make the interior of the utmost convenience and comfort, and the exterior express the interior in the simplest way, with the sole assistance of good outlines, agreeable surfaces of material, and with good shadows and color. It goes without saying that such a house, which is in most cases incapable of having classical symmetry, owes its entire quality (apart from color) to its relative proportions of parts, and to its light and shade as given by its mass, eaves, and stories and windows. This granted, "*Normandie's*" design is open to the following objections: 1. Too much wall-surface for the roof. 2. Too small a triangle over staircase window for walls below. 3. Too little projection to eaves for amount of wall-space below. 4. A single corner tower, not isolated on the one hand or supported on the other — a study of a photograph of the "Farm of Tompes," Bure-en-Bray, near Neuchatel, will show by contrast both methods of making a corner tower compose well with a building. A corner tower is a difficult thing to handle in wood, and is very difficult to balance if it forms the termination of the mass of the building, excepting in conjunction with another similar tower. Rendering is excellent throughout. House could probably be built for the money.

"*Scotch Thistle*." — The plan is, if anything, better than that of "*Charles Dickens*." The kitchen is shut off from rest of house and well placed for servant, conveniently near front door. The staircases are brought together on the landing. The study is well isolated in third story. The house is well placed for views and sun and sits the slope well. Perhaps it would have been better to do without the library and throw it into the hall. The details are good. The elevation is good, but the rendering of the perspective does not begin to do the house justice. The point of view taken shows it at its worst, the long and short lines of the rakes of the gable following each other like two siphons, and the design seems to want more projection of rakes and eaves to overcome a certain bareness of effect common to wooden houses. There is an exactly similar fault in roofing this house to the one that "*Charles Dickens*" has made. Two equally important gables are struggling for supremacy. If the roof running north and south were made the main roof with eaves at equal height on both sides and the study gable changed into a large dormer, the house would be much improved. The rendering is vigorous but dry and the touch is not assured. The rendering of plans seems hasty. The house could be built for the money.

"*Birdseye*." — Plan is good. Novelist well isolated. Bedrooms conveniently arranged for children. House well placed for view and sun and sits the slope of hill well. Lighting of second-story hall ingenious. No constructive details; other details good. The balcony to study is somewhat of a snow-trap. The exterior design has a serious fault: the perpendicular treatment of living-room bay terminating in novelist's room is entirely out of keeping with the long, low, horizontal line of a gambrel-roofed house. It would be better in the middle of the long side of such a house than at the end, but would be difficult to make harmonize under any circumstances. It would have been better to have made the house frankly a gambrel-roofed house with the novelist's room on the northeast side where the flat roof is shown on plan, and to have lighted the hall from above. Rendering of house is good. In rendering landscape too many short lines are used.

T. T. R. & B. — Plan has same objections to it as that by "*Normandie*." It is compact and simple, and has bedrooms well arranged, and good exposure to the sun. Details are excellent, except that a moulding or two might be acceptable in the cornices; but when we come to examine the exterior, the difficulties thicken. The general scheme of the perspective is excellent — apparently simple and effective. Corner tower well supported by gable, of good proportion and well flanked by balcony, with its heavy shadows, which serve to define the horizontal treatment of the house in spite of the perpendicular tendency of the tower; but the more the design is studied the more faults are seen. Apart from the manifestly weak curve of the tower-roof, and the very bad termination of the peak of the gable, what is to happen to the roof over parents' bedroom? According to elevation and perspective, the main ridge swings forward 4′ 6″, and is 10′ 0″ from line of southeast wall. The eaves over parents' room are on a line with those of balcony, 19′ 0″ below the ridge, making a pitch of 10′ 0″ base to 19′ 0″ high to gable, a frightful pitch. The space over southeast children's bedroom has to be roofed in some way, either by gable or dormer running at an angle into the 14′ x 17′ pitch on one side, and the 10′ x 19′ on the other, and the result must be one of the worst hotch-potch of roof-lines imaginable. The warped ridge is bad, in the first place, and is a mere affectation. It is a very awkward plan to roof at best, but the old rule of roofing the largest parallelogram first, and letting other roofs be subordinate, could be applied and simplify matters. The large rectangle of plan could be roofed with gable, or hip ends, as preferred, the small rectangle of the parents' room made a subordinate roof, butting into the other. The south corner of children's bedroom and dining-room cut off parallel with main line of house, the rooms made symmetrical at both ends, and the subordinate roof brought into main roof on south with a sweep. This, of course, is merely knocking the roof into shape. The better method is to straighten out the plan. House could probably be built for the money. Rendering excellent.

HENRY VAN BRUNT,
C. H. WALKER.

MAKING NAILS FOR PUNISHMENT. — To make nails was one of the sentences imposed in Massachusetts 100 years ago as a punishment for crime, and 12 nails a day was accepted as a day's work. — *Iron Age.*

SITTING STATUES.[1]—IV.

"JOHN HARVARD." "LABOR." "THOMAS PAINE." "AULD LANG-SYNE."

"Labor," Post Office, Boston. D. C. French, Sculptor.

MR. FRENCH went through the scheme that he laid out in the "Harvard" easily and happily. If it does not show the most intense study of the more intricate points of the subject, it is free from labored indefiniteness. An excellent and well-determined part of the composition is the chair—large, well-proportioned and in good style. The statue, as a whole, is, in freedom of movement, general composition, and unaffectedness of detail on the right way toward a good work of art. The sculptor has evidently done his best. The statue is worthy of study and it ought to have a good influence.

One would naturally suppose that it would have a good influence in Boston, and that the public would take advantage of its existence to get as good, if not a better statue, whenever the opportunity occurred. But such has not been the fact. Since the erection of the Harvard, statues of two eminent citizens of Boston—Theodore Parker and Abbott Lawrence—have been ordered, the first from a person whose capacity as a sculptor is quite unknown, and the second from a person whose standing in profession is open to dispute. Another important public monument, including a statue, to the memory of General Joseph Warren, is proposed to be executed by a granite company at an estimated cost of twenty-five thousand dollars, and from a design by a person also unknown to those interested in art.

It would seem that the appreciation of public monuments had reached its lowest level when their execution is consigned to the art facilities and employed labor of a granite company, or to the experimental fancies of persons known as unworthy to be trusted with such important matters. The assertion that "sculpture is not a difficult art," which was made by a leading professor of art in a neighboring college, was to many a startling indication of a new phase of art intelligence. The enormous amount of statuary of every conceivable description that has been made in the United States during the past twenty years by granite-cutters, has been regarded by art lovers with anything but satisfaction. It seems, however, that the professor was in accord with the prevailing public feeling that "any one can make a statue," and Boston, the long-acclaimed centre of art sensibility, has confirmed the assertion as completely as the author of this dictum could wish. However lamentable these things may be, they are by no means novel or unexpected. They are really the legitimate result of causes not difficult to trace. One of these causes is found in the indifference shown to the value and existence of the first good statues erected in Boston. One instance of this indifference is illustrated in the history of the marble statue of Washington[2] by Chantrey. It was erected in the State-house, in 1827, in a room fitted up expressly for it by the Association through whose efforts it was procured.

The conditions upon which it was given to the State and accepted by it were that "the hall in which it stands should never be appropriated to any other use, or to the exhibition of any other monument or work of art than the statue of Washington;" and that "it should be seen by the public at all times, with the exception of Sundays and Thanksgiving Days, on which days the State-House was closed, in obedience to an order from the General Court."

Thomas Paine. D. Richards, Sculptor.

Since 1865 this hall has been appropriated for the preservation of the State battle-flags, and the entrance closed with glass. The public are not admitted to the room, and the only way of getting into it is by climbing over a high iron railing and crawling through a door three feet high and twenty-two inches wide. For all art and public purposes the statue does not exist, and its existence was blotted out by the deliberate breaking of a covenant.

The "Bowditch" statue was erected in Mount Auburn cemetery in 1848, and the "Otis" in the chapel of that cemetery about thirty years ago. Every statue erected in Boston since that time is much inferior to these three, and many of them are too wretched to be called statues. The ease with which a good statue can be forgotten in Boston is proved by a communication to one of the city papers not long ago, in which the writer advocated, with much learned zeal, the great debt of gratitude due to the memory of James Otis, and the necessity of erecting a statue to his memory. That a fine one already existed was a fact the author of the article gave no suggestion of knowing. The communication closed with a Latin quotation to the effect that, after all, the very air itself, more lasting than monuments, would preserve Otis's memory.

A still more noticeable instance of the indifference to art in sculpture in Boston is found in the vicissitudes that have befallen "The Falling Gladiator," by the late Dr. William Rimmer. This statue was made in 1861, within a few miles of Boston, under the most incredible circumstances. Its author is the only real art genius who has ever lived on this continent, and the statue far exceeds in merit anything ever done by an American sculptor. For twenty years after it was executed it was tossed about as a curiosity, and finally stowed away in an art institution in New York, wholly forgotten, except by its author. After his death it was hunted up by his family, and now finds a harbor in the Boston Museum of Fine Arts. Several attempts were made, during Dr. Rimmer's life, and after his death, to collect money to put the statue in some more enduring material than plaster, but wholly without success. So far as the effect of "The Gladiator" upon public taste and appreciation is concerned, it might just as well have been buried with its author. The distinction, never very clear, between art in form, and forms or images set up as art, has been fast growing less so, until the time has come when "anybody can make a statue," and the wide-awake granite contractor is the accepted purveyor in one of the greatest expressions of a people's immortality.

Auld Lang-Syne.

The granite pedestal upon which the "Harvard" is placed was designed by Mr. C. H. Walker, a young Boston architect. It is handsome in itself, and composes well with the statue. There are several facts about it that are especially noticeable, and which show that the very difficult subject of the relation between a statue and its pedestal has received careful study from the architect and sculptor. The incongruity that almost always exists between American statues and their pedestals is a serious reflection upon the artistic ability of both

[1] Continued from page 281, No. 546.
[2] See *American Architect* for June 11, 1881.

sculptor and architect. The slight convexity of the sides of the Harvard pedestal was an art necessity, clearly recognized and intelligently met. The line of ornament around the pedestal near the top is another indication of the understanding of an art problem. It makes the needed division between the statue and its support in the right place. The soft, light, pinkish color of the granite is especially agreeable. Nothing can exceed the coldness and the absence of art interest in the vast majority of granite pedestals, except the rigidity of their lines and surfaces, and the hardness of their execution. That a pedestal should and can be a work of art, instead of a pile of repulsive granite, is something yet to be accepted by those who are concerned in their erection.

Statue of Lamartine, Macon, France. Falguiere, Sculptor.

The central figure of one of the colossal groups that decorate the United States Sub-Treasury Building in Boston is called "Labor." It is placed about eighty feet from the pavement. Our illustration is from a photograph taken from the roof of a building opposite. Both of the groups were made by Mr. French, and were illustrated in the *American Architect* of August 29, 1885. We use the "Labor" to further exemplify the freedom of movement that characterizes the "Harvard" — a freedom that is very near to weakness in the "Labor." But this freedom, with a more definite and comprehensive conception of the subject, and a more vigorous bringing together of the body and its members, would have made an imposing composition.

The statuettes of "Thomas Paine" and "Auld Lang-Syne," by David Richards, are included among sitting statues, because they have the qualities of statues in them: qualities which are rare in American sculpture, and which have an unusual interest in this case, from the fact that they are displayed in the works of a sculptor who has never been recognized as deserving a place among the notable sculptors of this country, who has never possessed either social, political or professional influence, and who has worked under nearly all the embarrassments that could possibly surround him. Nor is this all. Popularly and professionally speaking, Mr. Richards would be classed among the dozens of cheap modellers of the country, who call themselves sculptors, and who work most of the time for the enterprising contractor of public monuments; the chief object of their work being to make the largest image for the smallest sum of money.

Robert Fulton, in the Capitol, Washington. Howard Roberts, Sculptor.

We admire the statuette of Thomas Paine for several vital reasons: the fundamental idea of the subject—its thought-receptive attitude — was understood by the sculptor, and a conscientiously artistic effort made to express it. It is the only example of this high style of art conception that we know of in American sculpture; a style having a splendid modern expression in the Lamartine statue, by Falguière.

The sculptor has brought together all the material of his subject — more than was necessary, and some of it cumbersome. At first sight the superabundance of material and the uncertainty of its arrangement is disturbing. But this is soon forgotten, in view of what he has succeeded in accomplishing and suggesting, and the true artistic sense he has displayed in his efforts to make an intelligible and forcible composition. The chief uncertainty of the "Paine" is in the position of the arms. Either the right hand should have rested upon the thigh, or the left arm been engaged in holding the scroll upon which the thought was to be written. In the first case, there would have been a more harmonious ease of body and a more concentrated purpose of mind. In the second, the alertness of both body and mind would have been in unison. In spite of this uncertainty and the meagre chair, strained right leg, heavy table and scroll, the fine idea of the statuette is plainly evident. These faults could have been avoided by more study. They are not those of a barren nature or of over self-confidence. The human feeling of the "Paine" is one of its chief merits, shining out over all its faults, and far outweighing all merit of requirement. If the "Buckingham" had a tithe of this quality it would recommend itself to human interest. It would be better for the "Harvard" also if it were a little more winning in this respect. Sympathy or approachableness is a quality so rare in American statues that it seems like some new thing whenever it appears.

The group of "Auld Lang-Syne," is, like the "Paine," full of merit and not free from faults. It is much more picturesque, better composed, and less dry and precise in its modelling. The figures are replete with character, individual and composite. The types are well chosen, and the sentiment nicely and fully expressed.

Both of these statuettes have the air of statues. As an example of a statue in size that retains the character of a tiny statuette, the "Fulton," by Mr. Howard Roberts, of Philadelphia, is the most extreme of anything we know of anywhere.

Another great quality of Mr. Richards's work is the predominance of the character of the subject over his own personality or that of his model. He sees his subject generously and fully, from a fine point of view, and works mightily to interpret it. In a future article we shall speak more at length of this sculptor. At present we venture to say that by nature he is more of a sculptor than many of his more fortunate contemporaries, and that if he had had their opportunities he would have distanced them all, even in their individual merits.

T. H. BARTLETT.

[To be continued.]

AN EDITOR'S TRIP ABROAD.[1] — IV.

THE LONDON PICTURE EXHIBITIONS.

A WINDSOR CHAIR. (CABINET MAKER.)

FOR the first time in my life I have seen, within the last two weeks, all the pictures that I cared for. There is no saying how soon I may want to see some more, and I have yet the National Gallery to look at, but with the Royal Academy and the Grosvenor Gallery and the *Salon* for modern pictures, and the Louvre for the older ones, one must be insatiable if he could find any vacancy unfilled in the range of his artistic appetite.

Naturally, the architectural drawings in the Royal Academy appealed first to my attention. The general aspect of the room in which they hung was particularly pleasant. Not only was the mixture of pen-and-ink with colored drawings judiciously made, but the background, formed by paper or decoration of a pale, terra-cotta color, figured in a still lighter shade, extended only a few inches above the upper row of frames, terminating there beneath a wide wooden frieze, painted of a very faint, yellowish-gray color, so that, although the pen-and-ink drawings had just sufficient color behind them to warm them up, there was nowhere enough, even of the unobtrusive terra-cotta shade, to take the life out of the colored sketches. On examining the individual drawings I was rather impressed with the lack of variety in style, particularly among the pen-and-ink sketches. The water-color drawings were almost uniformly admirable, and there were several masterly sketches in Payne's gray and sepia, and in pen-and-ink with a faint tint over it; but the pen-and-ink drawings pure and simple generally followed very closely either the style made familiar to us by Norman Shaw, or that of his rival as a draughtsman, T. Raffles Davison. Of course, to be reckoned even as a distant imitation of the work of these great masters, a drawing must be tolerably good, and, excepting one unfortunate pencil-scrawl, enlivened with streaks of brick-red pastel, I did not see a single poor drawing in the room, although several, particularly among the sketches of interiors, might with advantage have had their perspective more carefully constructed. There were something more than two hundred frames on the walls, the list of contributors including the names of nearly all the most distinguished architects in England, and the room while I stayed in it, was fairly well filled with interested visitors.

One must expect, I suppose, that people in general will be more attracted by paintings than by architectural drawings, and, whatever may have been the relative capacity for appreciating what it saw of that portion of the British public which strayed into the architec-

[1] Continued from page 17, No. 550.

tural room, and of that which did not get beyond the paintings and the black-and-white work, it is certain that the latter was much superior in point of numbers.

In one of the first rooms that we entered we found great attention excited by a magnificent ceiling decoration, painted, if my suspicions are correct, for a house in New York, by Sir Frederick Leighton, the president of the Royal Academy, and the most accomplished painter that it contains. The ground of the ceiling was a bright, pure, golden tint, and on this the design was drawn, in panels, separated by beautiful ornamental bands, and containing simple groups of figures and accessories, arranged with almost perfect symmetry, and painted in full color. There would hardly seem to be anything particularly novel about this treatment, yet, on comparing it in my mind with other ceiling decorations, I was unable to think of a single one which could be called even remotely similar. There are flat-tinted ceilings enough with conventional decoration, and ceilings enough with figures in full color, but with a ground of clouds and sky, and there are also to be found figure-decorations with plain grounds in real or imitated fresco, but the idea of using a plain ground for figure-work on a large scale, and to do the whole in full, rich color, is just what one might have expected to occur first to a man so thoroughly accomplished and so free from hobbies and prejudices as Sir Frederick Leighton. It is fortunate also that he should have been among the first to attempt carrying it out. A feebler man would have been inevitably overthrown by the multiplied embarrassments of keeping the figure-painting conventional enough to agree with the decoration, yet natural enough not to look affected, and sufficiently bright to resist the contrast of the trying background; but the complete success of the lovely painting gave no suggestion of the difficulty of its execution, and the muses, or whoever they may be, smiled as sweetly from the canvas as if it had been an every-day affair to put them there.

The next picture of special interest was a portrait of Mr. R. Norman Shaw, by J. C. Horsley. The architect was very cleverly and simply painted in an easy attitude, with a drawing-board before him, and drawing materials scattered about, and although the portrait was hardly so strikingly picturesque as Herkomer's great sketch of Mr. Richardson, it seemed to me one of the best there, which is saying a good deal. I was disappointed to find only one portrait by Sir John Millias, and that a rather uninteresting one, but there was a picture of Millais himself which had the interest that the other lacked. Judging from the portraits generally, the English painters follow the example of the good old Dutch masters in not flattering their subjects. A picture of Mr. Joseph Chamberlain which was interesting on account of the political prominence of the gentleman whom it was supposed to represent, was about as well calculated to alienate his friends from him as a portrait could possibly be. My first conclusion on seeing it was that if I were an Englishman no persuasion would induce me to follow the lead of a person so repulsive. To judge from the portrait its subject would seem to have combined the worst characteristics of the Reverend Mr. Chadband and the late Emperor Napoleon III, and I did not get wholly over the impression produced by the stooping figure, the smooth, wily face, and the crafty eyes, until I read, two or three days after, the manly speech in which he offered his services for the next Parliament to his constituents.

I had been prepared to find that the "impressionist" pictures, of which we hear so much across the water, would not be numerous in the Royal Academy exhibition, but there was one large composition by Mr. E. Burne-Jones to which I turned with eager expectation. At first sight it had the appearance of a piece of old leather, faintly decorated with the image of a fish, but the catalogue said that it was meant to represent the "Depths of the Sea," and explained it further by a quotation from Virgil, which seemed to indicate that somebody had got everything that he or she was so wretched as to want; and as this did not seem to be intended to apply to the spectator, I concluded that it must be appropriate in some way to the fish, which, in fact, turned out to be a mermaid, holding a large-sized man on her shoulder. Both the individuals concerned seemed, so far as any expression was visible on their countenances, to be contented with their lot, and as they seemed to need no sympathy from any one else, I was glad to turn to the next subject.

Our time in London being short, I hurried through the Royal Academy, in order to finish the day at the Grosvenor Gallery, which occupies a modest, but rather prettily-arranged set of rooms in New Bond Street. The first impression of the exhibition was certainly superior to that produced by the first sight of the Royal Academy collection. Something of this might have been due to the superior coloring of the Grosvenor paintings, but the smallness of the rooms seemed to me to help the pictures, and the lighting was much pleasanter.

Every one knows that the Grosvenor Gallery is the refuge for all sorts of artistic eccentricity, and I began my examination of the individual pictures with much curiosity. As compared with the Royal Academy exhibition, in which a decorous legginess seemed to be only sparingly tolerated, the Grosvenor collection abounded in nude figures of various sorts, and there was also a noticeable difference in the portraits, many of which were treated in a beautifully picturesque and interesting way. The worst of the pictures, as it seemed to me, were those about which the catalogue appeared to endeavor to throw a sort of misty sentiment, by means of poetical quotations, enigmatical titles, and so on. There was a good many of them, for the notion that feeble pictorial skill can be helped out with literary taste is very prevalent in England, and nowhere more than among the æsthetic public which supports the Grosvenor Gallery, and sentimental circumlocutions took the place of titles to a large portion of the paintings. This had one disadvantage, that in many cases there was no obvious connection between the pictures and the titles. If the catalogue said that something by Mr. Burne-Jones was intended to represent "Flamma Vestalis," it was tolerably safe to assume that the subject would be a girl, and the "Soul's Prison," the "Forlorn of Paris," "A Field Flower," "Hope," "Thoë," and so on, were pretty sure to represent young women, although it was not so evident why the "Forlorn of Paris" should wear no clothes but a trifle of mosquito netting, or why "Hope" should have had a broken neck. When, however, the ambition of the painters carried them beyond the portrayal of imperfectly-clad girls, the indirectness of the titles became embarrassing. One picture, for instance, which seemed to indicate a simple nose-rubbing scene, between two persons with features admirably formed for this purpose, was, as the catalogue said, intended to represent Francesca da Rimini and her cousin, on that occasion when, according to the proof-reader's rendering of Dante's libellous lines, they "*leggramo un giorno per diletto*," while another, showing a girl without clothes standing by a pond, was, as it seemed, designed to illustrate an incident in the life of Joan of Arc, regardless of the circumstance that Joan of Arc, at the period to which the incident referred, was about forty years old, and would hardly have gone down to ponds to bathe without protecting herself with an old gown and an umbrella. If this had been all, one might simply pass over such pictures with the reflection that the titles were probably an afterthought, but some, even of the simplest and worst pictures, were dished up with a Tuscan-Dante-Arno-Francesca sauce that turned one's stomach. A lead-colored affair, apparently depicting a number of greenish feather-dusters sticking up from dump-heaps of dirty snow, with a watery-looking streak in the distance, was denominated "Leghorn from Bocca d' Arno." If the mouth of the Arno looks so, it must be a miserable place; but this was not so bad as another attempt at a landscape, which was honored in the catalogue with six lines of poetry, in printer's Italian, given as a quotation from an "Inno di S. Francisco d' Asisi," or as two or three compositions, resembling portions of boarding-house hash rather than landscapes, which had, as the catalogue informed us, been painted for St. George's Guild.

THE ILLUSTRATIONS

Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

HOUSE FOR CHARLES L. TIFFANY, ESQ., ON SEVENTY-SECOND NEW YORK, N. Y. MESSRS. McKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.

[Gelatine print issued only with the Imperial and Gelatine editions.]

PRIZE DESIGNS FOR A $5,000 HOUSE, SUBMITTED BY MR. H. C. BURDETT ("*Normandie*"), BROOKLINE, MASS., MR. E. F. MAHER ("*Charles Dickens*"), BOSTON, MASS., AND MR. F. CRAIGIN ("*Scotch Thistle*"), HARTFORD, CONN.

The jury awards the three equal prizes of fifty dollars each to the authors of the above-mentioned designs. The jury's criticism will be found elsewhere in this issue.

COMPETITIVE DESIGN FOR A $5,000 HOUSE, SUBMITTED BY "*Birdseye.*"

COMPETITIVE DESIGN FOR A $5,000 HOUSE, SUBMITTED BY "*T. T. R. & B.*"

DINING-ROOM FOR S. M. NICKERSON, ESQ., CHICAGO, ILL. MR. AUG. FIEDLER, ARCHITECT, CHICAGO, ILL.

REMUNERATION FOR WORKS NOT EXECUTED.

WHEN an architect, by a special arrangement with his employer, agrees to a certain remuneration, the work is only partly carried out, and he is then dismissed — is he legally entitled to charge the usual percentage and to claim two and one-half per cent on the cost of work which has not been executed under his supervision? Such is the question which has been recently brought before a legal tribunal, and was reported in our last issue as settled by the defendant offering to increase the sum paid into court and to pay all costs. In this case the main consideration seems to be the cause of the dismissal. If the architect is dismissed without a sufficient cause being assigned, as it appears was the case in the instance mentioned, there is no doubt whatever the architect is entitled to throw over the agreement and to claim his usual commission. Neglect, incompetence or misconduct

No. 551 American Architect and Building News, July 17 1886

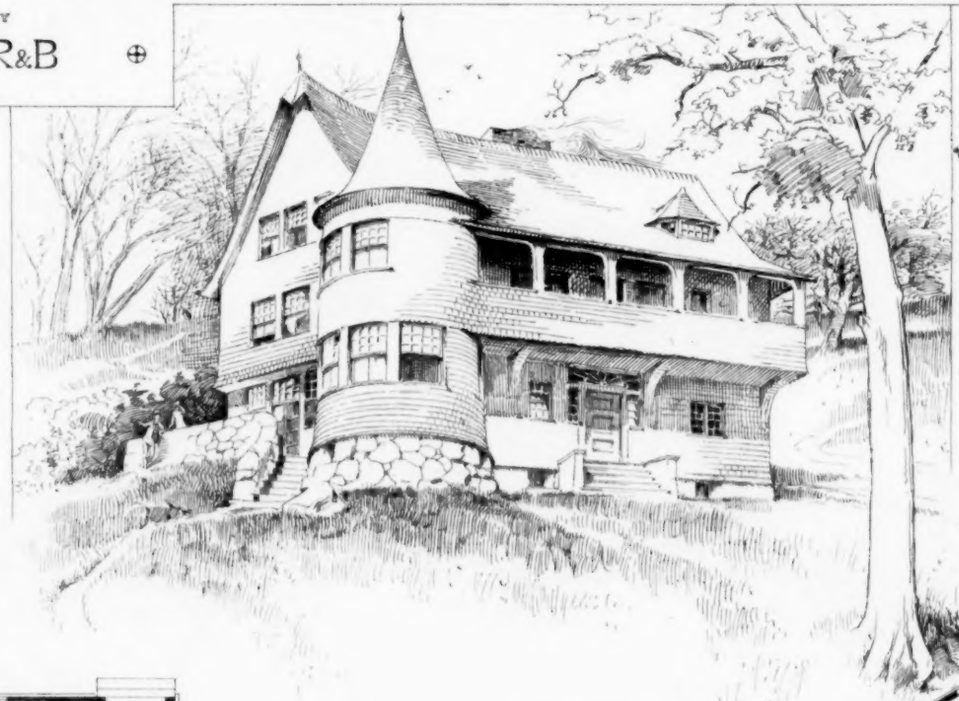
AMERICAN ARCHITECT COMPETITION ... AN INEXPENSIVE COUNTRY HOUSE TO ACCOMODATE A LARGE FAMILY

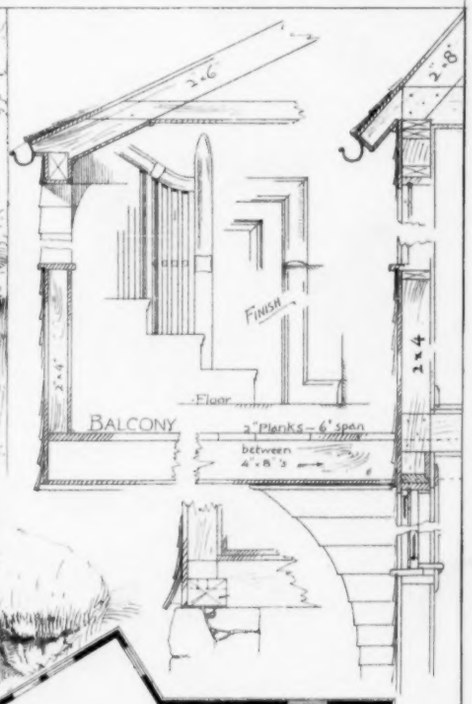
SCALES OF FEET
ELEVATION
PLANS
DETAILS

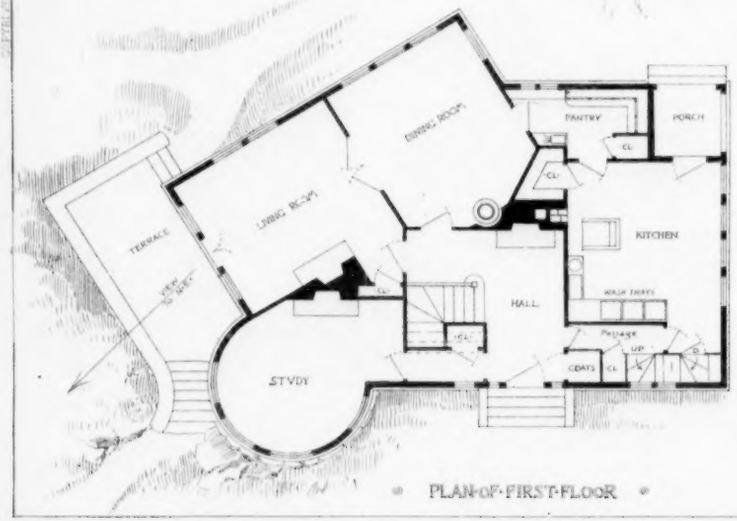
BY

T.T.R&B

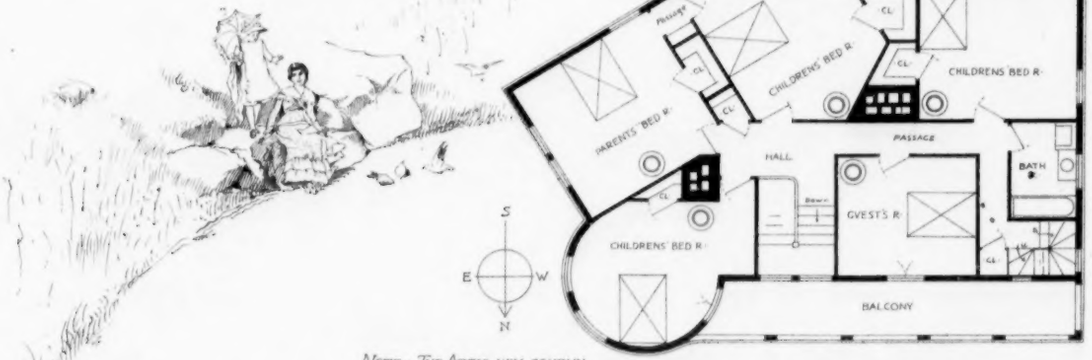
WEST ELEVATION







PLAN OF FIRST FLOOR



NOTE – THE ATTIC WILL CONTAIN PLAY ROOM & SERVANTS' ROOM, ETC.

PLAN OF SECOND FLOOR

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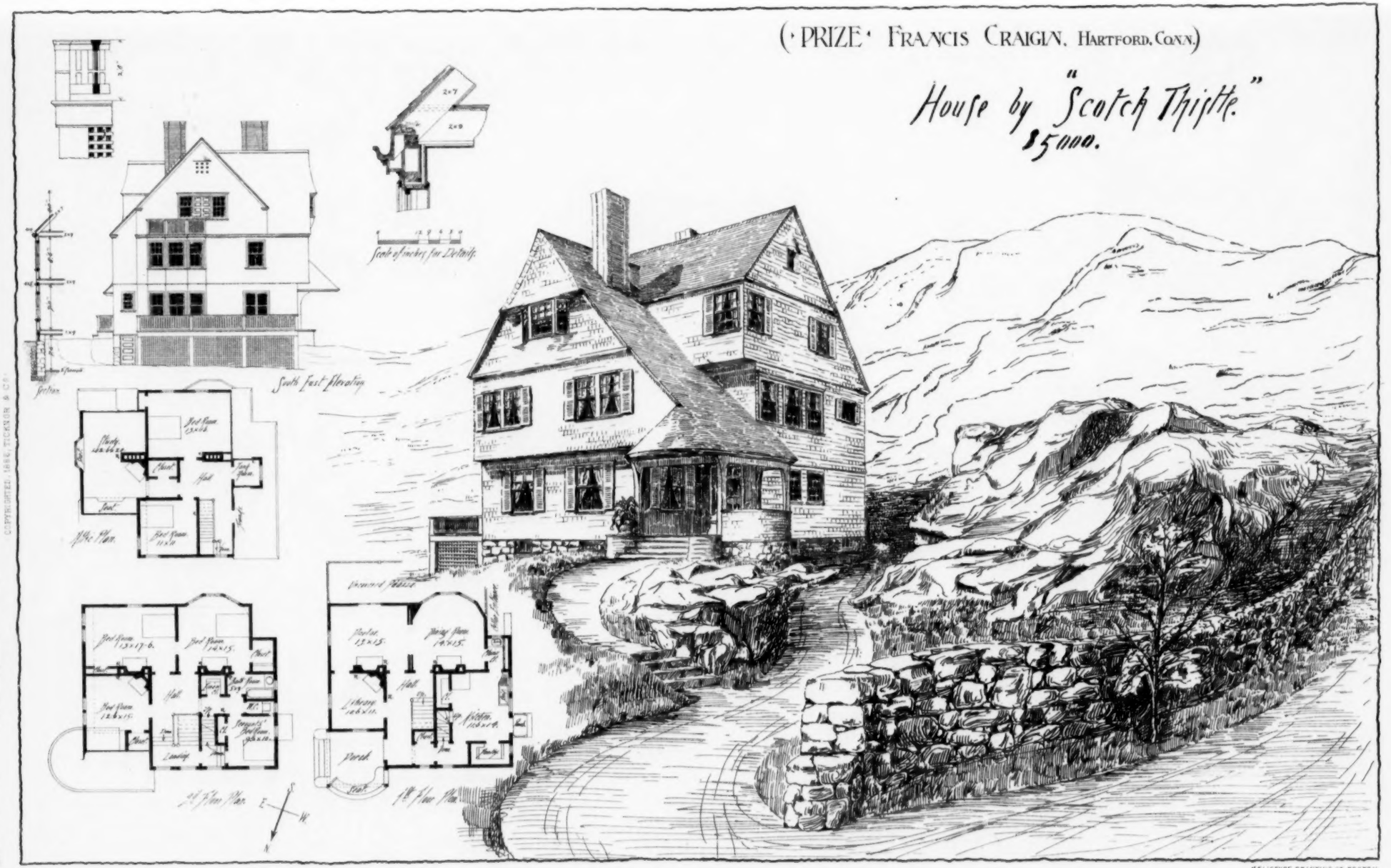
("PRIZE" FRANCIS CRAIGIN, HARTFORD, CONN.)

House by "Scotch Thistle."
$5000.



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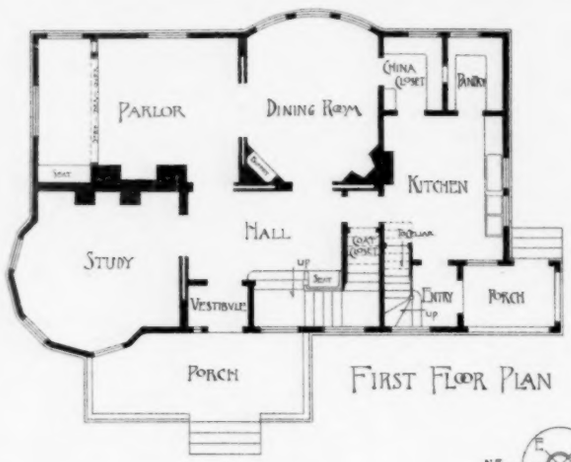
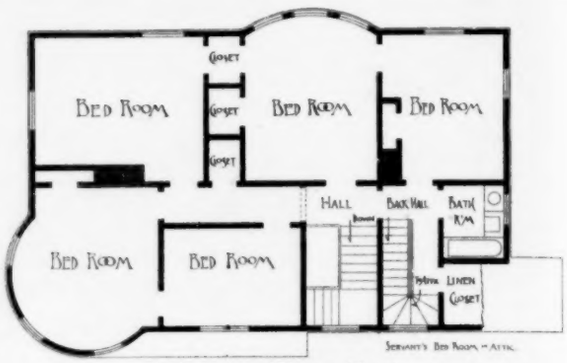


FIRST FLOOR PLAN



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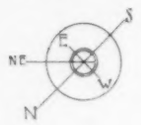
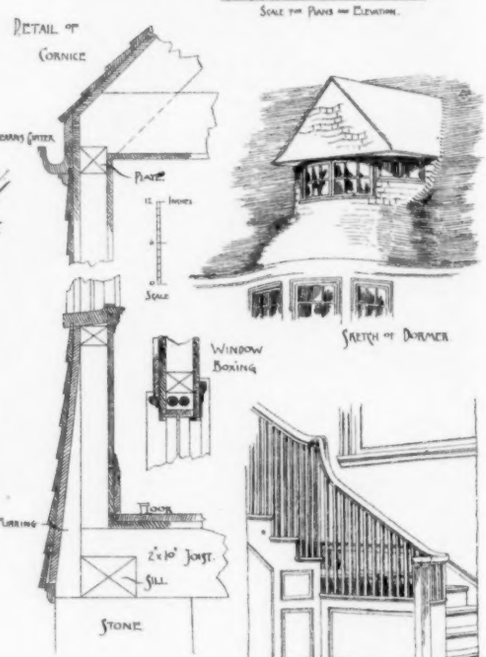
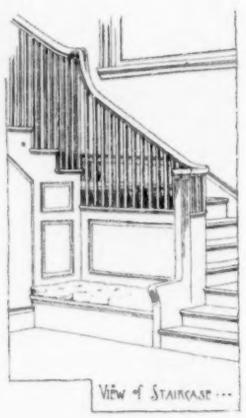


SOUTH-EAST ELEVATION

SECTION





AMERICAN ARCHITECT COMPETITION

FOR A COUNTRY HOUSE TO COST $5000.

by NORMANDIE.

(PRIZE. H.C. BURDETT, BROOKLINE, MASS.)

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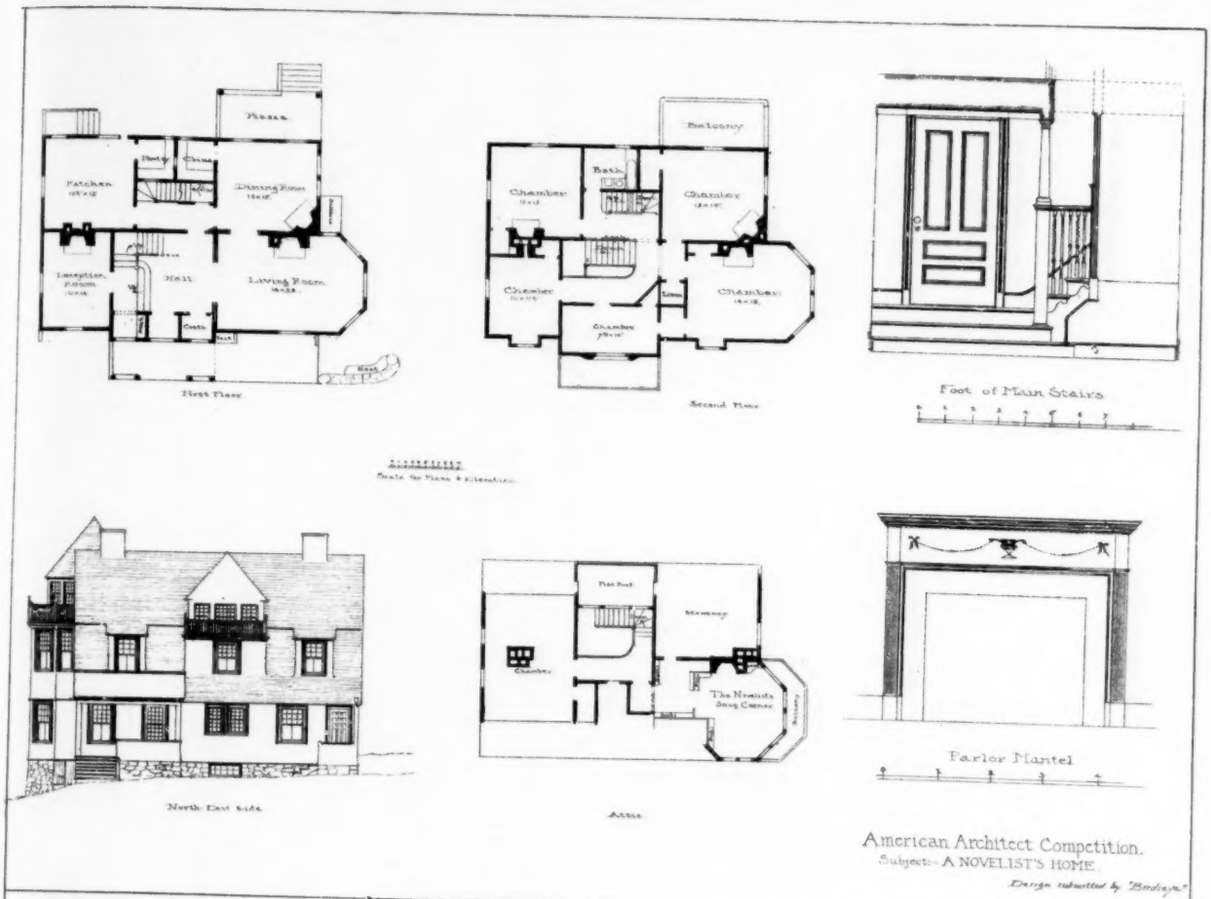
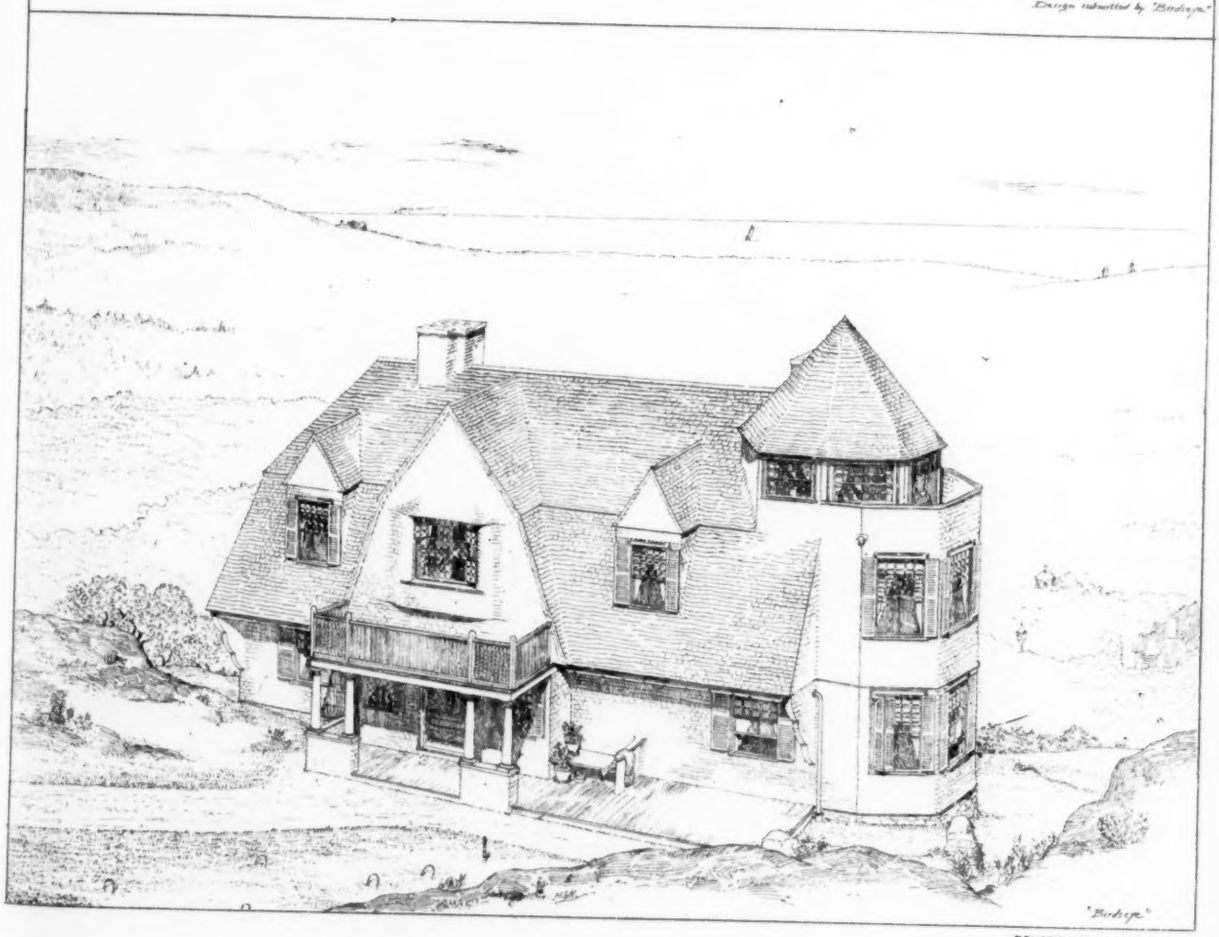


American Architect Competition.

Subject:—A NOVELIST'S HOME.

Design submitted by "Birdseye."



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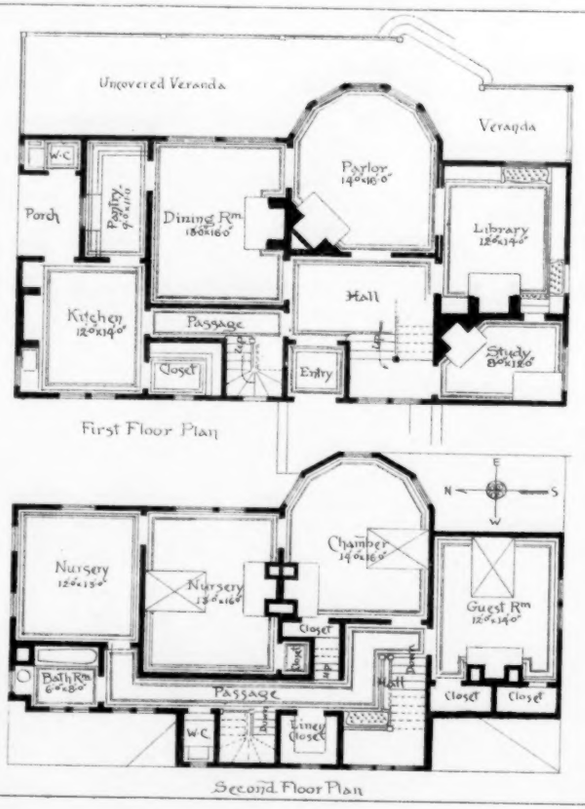
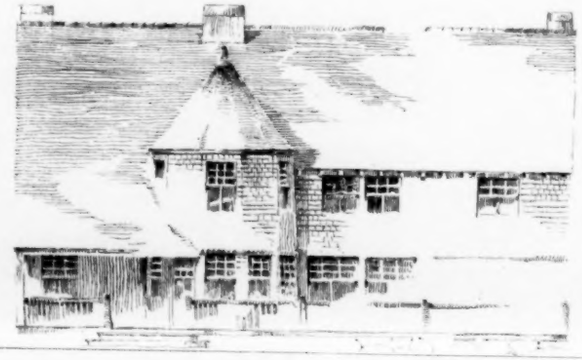




(1st PRIZE) EDWARD F. MAHER, BOSTON, MASS.)

AMERICAN ARCHITECT COMPETITION

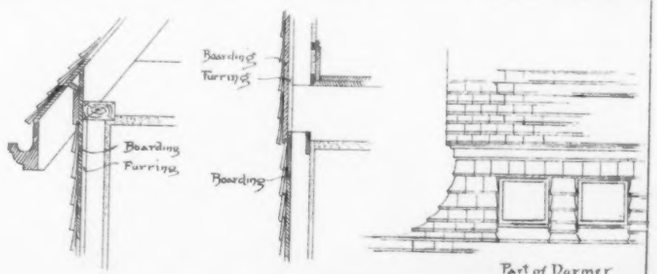
Design for a $5000 House

Submitted by "Charles Dickens"

Scales

For Details 3 Feet

For Plans and Elevations 10 Feet



HELIOTYPE PRINTING CO. BOSTON.

DINING ROOM. RESIDENCE OF S.M. NICKERSON ESQ CHICAGO, ILL.

HELIOTYPE PRINTING CO. BOSTON.

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Dining Room. Residence of S. V. Nickerson, Esq Chicago, Ill.

Heliotype Printing Co Boston

would have to be proved in order to make such a dismissal a reasonable plea. Clients have strange whims sometimes; they imagine the architect is neglectful if he does not appear every other day on the works, or that he is endeavoring to add to the expense, or is in alliance with the builder. On the other hand, suppose there is a ground for dismissing the services of the architect. Is he, under the circumstances, entitled to make the usual charges? It is very questionable if he can do so. Let us imagine that the client alters his mind and decides not to go on with the work, or to save the further expense of the architect. Such a contingency is not contemplated at the beginning, and there has been no written or implied understanding to pay extra for what is so suddenly broken off. Is the architect to be satisfied with a nominal remuneration under such circumstances, or can he charge his full commission? There are many in the profession who would certainly think they were fully justified in setting aside the agreement, and we think the law would support them, if it could be proved that such an understanding was made only under the belief that the building would be fully carried out. The circumstances brought into notice by the case to which we have referred are instructive, at least to the profession, in several ways. Two things are clear. The first is that any agreement made between architect and employer should be in writing; the second, that in case the services of the architect are dispensed with, he should be entitled to claim the usual remuneration of five per cent on all executed work, and two and one-half per cent on all work not executed. We know of a few instances where the architect has been careless of the way in which he has been appointed — that is to say, his engagement has been of a very slight character, perhaps a talk-over with the building owner in a friendly way. A promise by the former to prepare a design on approval is made. When the charges are sent in, the bill is disputed; the defendant denies having given any instructions, or, as in another case, alleges the engagement was only contingent on some event. The case of "Wykes *vs.* G. H. Macdermott" is in point. The plaintiff was introduced by a builder to the defendant, both being interested in the erection of a theatre. He was instructed by him to submit a design; drawings were prepared and submitted to the defendant; interviews took place. Want of funds prevented the builder finishing, and he subsequently filed a petition, and the negotiation came to an end. The plaintiff thereupon brought an action, but the defendant denied that he ever gave any instruction to the plaintiff; the matter was simply talked over in a friendly way, and the defendant further denied having anything to do with the scheme. In cross-examination he said whatever he did was contingent upon his being made a partner in the concern. The verdict was given in favor of the plaintiff. Not unfrequently the architect finds himself mixed up in a business, though he has no definite instructions from any person. It may be suggested by a friend that he should send in plans, and these are adopted, but without any request from any individual. The work is perhaps abandoned, and he finds he has no legal claim.

Now in law an architect may have prepared a set of plans, and work may have been performed, and yet without being able to show a previous request he may not be able to substantiate his claim. There may be nothing to show there was anything obligatory on the alleged employer to pay; in short, there has been no "retainer" of the architect. In point of fact, the person cannot be charged with it unless it has been done by his orders, or unless he, by accepting the benefit of the work done, impliedly engaged the architect. This implied request is the only ground of action in such circumstances. The architect who works his way into a position has seldom, indeed, any trouble in substantiating his claims; there is generally some correspondence from which an implied request may be derived, if there is not a contract in a formal manner. He is safer, however, if he proceed on sure ground, and for this purpose a "retainer" is necessary, and a retainer may be simply a request, as, "I engage you to prepare plans and carry out such and such work," which may be verbal, or, if the agreement is not capable of being performed within the year, then in writing. The retainer and its acceptance establishes a contract, from which it is impossible for either to free himself; hence the importance of the negotiations being entered into in a formal manner. Till both parties are agreed, either has a right to be off to do as he likes, a rule of law which cannot be too clearly or tenaciously remembered by the architect in his dealing with individuals.

A form of agreement between architect and building owner, parts of which might be usefully adopted, is suggested in "*Emden's Law of Building.*" The substance of the agreement is as follows: 1. The architect will prepare sketch plans and all necessary drawings of intended building, having regard to the proposed cost, so that a contract may be made for it. 2. If the employer abandon the intention of building, the architect shall be entitled to a sum to be fixed, and to the return of his sketches. 3. If the sketches are approved, and the said employer desires to proceed, the said architect shall, by a day to be named, prepare working-drawings and specifications for competition by builders. 4. The drawings and specifications shall be full and complete. 5. If the most approved tender exceeds the amount proposed, the architect shall, if required, revise his plans so as to bring the expenditure within the prescribed limit. 6. The plans and documents shall be the property of the said employer (*i. e.*, at once, not merely after the work is done), and the architect shall make at his own expense all copies necessary. 7 and 8 apply to certificates and clerk-of-works. 9. The architect will be at liberty to vary architectural details, provided such variations do not involve extra cost, but shall on no account incur any increased expenditure without sanction of the said employer in writing. 10. If any additional or substituted works become necessary, the architect shall furnish the plans, etc., as soon as possible. 11. The architect's remuneration shall be a fixed sum to be agreed on beforehand, and one-third of it shall be paid to him on the execution of the contract, another third when half the contract price has been paid to builder, and the rest when the last payment has been made to the builder. 12. If after the working-drawings are made the employer does not proceed, the architect shall be entitled to a fixed sum to be agreed beforehand, and the plans shall belong to the employer. Or if the employer proceeds only with a part of the works, the architect shall be entitled to a proportionate part of the remuneration mentioned in 11, in addition to a proportionate part of the sum mentioned in this article in respect to the work abandoned. 13. The architect shall be entitled to nothing more except for alterations and additions made by written authority of employer. 14. In that case he shall be entitled to such increased remuneration as may be agreed on or determined by arbitration. 15. If the architect becomes incapacitated or dies, he or his representatives shall hand over to said employer all plans and papers, and shall be entitled to such equitable proportion of the unpaid part of the remuneration as may be agreed on. 16. Disputes to be settled by an arbitrator. 17. No rules of the R. I. B. A. or any other society to be held binding on the employer. Exceptions will be taken to Clauses 6, 15, and 17. The form we have summarized is the substance of the Government agreement, including suggestions by Lord Grimthorpe, and, though fairly open to reconstruction in the three clauses named, is fairly well devised to meet the case of abandonment of the work by the employer, either at the commencement or after some of the work has been performed. Referring to the question of remuneration in such cases, the custom of the profession, when the employer abandons his intention after the plans and specifications have been prepared, is to charge a commission of two and one-half per cent, with an additional fee of one-half per cent if tenders have been procured. A better arrangement may be made beforehand by agreeing to a sum, as in Clause 2, whenever there is any doubt as to the work being carried out. More difficulty arises when the work is only partially carried out. The architect may, by custom, charge his two and one-half per cent, and a further commission of two and one-half per cent on all executed work certified by him. It by no means follows that the building owner will consent to this, especially when only a portion of the drawings are prepared; but by previous agreement the remuneration may be fixed as in Clause 12, a sum being agreed for all the drawings and documents prepared, and the superintendence charged for up to the time of abandonment at the usual rate. This mode of determining the remuneration would be less open to question than that suggested by taking a proportionate part of a fixed sum, which proportion would be difficult of estimating when the architect's work is divisible. In cases of abandonment by the building owner, the property in the plans often becomes a question. The owner thinks he has a full right to drawings prepared expressly for his work; but, under these circumstances, the architect is less disposed to forego what he considers he is entitled to by custom. The thought of some one else being engaged to complete his design from the same plans is repugnant, to say the least. These are doubtful points. When it is made a condition in Government works to insert clauses requiring that the drawings are to be given up to the employer, we fear it will be a long time before the law will recognize any custom of the profession.

We have ventured to bring these questions before our readers because they are still open to doubt. Agreements for remuneration are often made in the case of large works. The architect, perhaps, is willing to throw off one per cent for a large, plain building; but he does not certainly agree to accept a proportionate sum if the work is abandoned, or his services are dispensed with. Yet this contingency is unexpected; it is never contemplated by the architect. But if a provision were made for works abandoned, or services dispensed with, such difficulties could not arise. A well-considered form of agreement, intended to meet these possibilities, ought to be drafted, in which the sum may be left to the parties themselves; but determining a rate per cent upon all executed work. The American Institute of Architects adopt a schedule in case of abandonment of work which appears to be reasonable. Thus the charges for partial service are as follows: Preliminary studies, one per cent; studies, including general drawings and specifications, two and one-half per cent; and the same, including details, three and one-half per cent upon the entire cost. The Western Association have also adopted the schedule, and have resolved that the architect should in all cases superintend the work designed by him.— *The Building News.*

STAINING BRICKS.— For staining bricks red, melt one ounce of glue in one gallon of water; add a piece of alum the size of an egg, then one-half pound Venetian red and one pound of Spanish brown. Try the color on the bricks before using, and change light or dark with the red or brown, using a yellow mineral for buff. For coloring black, heat asphaltum to a fluid state, and moderately heat the surface of the bricks and dip them. Or make a hot mixture of linseed oil and asphalt: heat the bricks and dip them. Tar and asphalt are also used for the same purpose. It is important that the bricks be sufficiently hot, and be held in the mixture to absorb the color to the depth of one-sixteenth of an inch.— *Scientific American.*

THE PREVENTION OF FIRE-RISKS FROM ELECTRIC LIGHTING.[1]

IT has been customary of late when the slow progress of electric lighting has been discussed, to abuse the Electric Lighting Act of 1882, and to make this measure, together with the stringent regulations of the Board of Trade, the reason for the absence of the necessary working capital which made so many of the companies, promoted to work particular systems, retire from business. Whether this was the case or not, is not my intention to discuss, but reliable authorities have often stated that, with our former knowledge of the subject, it would have been impossible to have undertaken to supply electricity to the public commercially in the same way as they are accustomed to obtain gas. That the question of supply and cost does not altogether prevent the adoption of a superior method of lighting is very clearly proved by the increasing number of proprietors of clubs, hotels, and occupants of houses who, after waiting in vain for electricity to be brought to their doors, have determined to produce it themselves, and for this purpose have set up the necessary plant.

We are accustomed to look upon electricity as that "invisible subtle fluid" which we use with impunity for ringing bells and actuating telephones, and are ready to take it, in the form of electric light, into our houses without any thought; the electric current necessary for lighting purposes, when uncontrolled, is far more dangerous; at the same time, if properly installed, it is rendered as harmless as that from the galvanic battery, with which every one is more or less familiar. The supply of electricity which may be furnished by any of the various systems, may be either generated direct from the dynamo, or it may be stored up in secondary batteries, wrongly termed accumulators, as they do not accumulate, but store up, electrical energy; also, it can be produced on a small scale by a primary battery similar to those used for telegraphic work, but larger. Whether from either one of these three methods of supply, and which ever system is adopted, the electricity is precisely the same and only differs in that one current may be of higher pressure, or, as it is termed, of greater electro-motive force than another, according to the construction of the battery or dynamo machine. These transform the zinc or the power derived from the fuel, and furnish electricity to suit the incandescent or arc lamps, the light from which is only electrical energy in the form of heat. The source of danger is that this heat may be produced where it is not wanted, and thus cause "fire." The prevention of this electrical *bête noire* has already occupied considerable attention both in this country and abroad.

A special Fire Risk Committee, appointed by the Council of Telegraph Engineers and Electricians, was formed in 1882, and some excellent rules were drawn up which have been adopted, in a modified form, by some of the insurance companies, and have been added to the excellent paper read by Mr. Slater before the Royal Institute of British Architects in 1882, but neither these nor the standard of requirements of the New York Board of Underwriters can be said to embrace all the changing details of electric light installations, which can only be ascertained by practical experience that already has considerably added to the knowledge possessed when the committee was sitting.

The first source of danger is in the main and branch wires which conduct the electricity about the building to be lighted, and which are run in much the same manner as gas-pipes. If these conducting wires are of sufficient area and of a material whose resistance is uniform, the current in its passage will develop no injurious heat, and there will be little risk from this cause. Whatever resistance the conductor possesses will cause heat, which will vary with the amount of electricity passing, and inversely as the sectional area of the conductor. This term "resistance," which is used by electricians, must not be confounded with the ordinary meaning of resistance to tension or to rupture. It is a misfortune that the term has been too fully introduced, as it would have been better to speak of the conductivity of a wire. The energy needed to cause the supply of electricity to pass through the conductor has been compared to the difference in the head of water necessary to cause a quantity of fluid to overcome the resistance of a pipe, but its action is totally different. It more resembles water soaking through sand, in that the whole of the cross section of the wire interposes a resistance which, in large conductors, doubtless varies proportionately to the temperature of each section according to its distance from the outside radiating surface.

In order to avoid any tendency to heat, the branch mains and leads which conduct the electricity to the lamps, should be of ample area. The following table may be taken as a guide in estimating the gauge for wires used in the interior of buildings, but where the electric current has to be distributed over a large district, the sectional area must be calculated in a more accurate manner in order to have the most economical proportion.

TABLE OF SIZES OF MAIN AND BRANCH WIRES OR LEADS FOR SWAN 16-CANDLE-POWER LAMPS (nominal 20 candles) AND EDISON 16-CANDLE-POWER LAMPS.

Number of Lights to be worked.	For 45 to 65 Volt[2] Lamps, taking 1.5 to 1.1 Ampères.[3]		For 90 to 110 Volt Lamps taking 0.8 to 0.625 Ampères.		
	Wire diameter.		Wire diameter.		Branch Leads.
1 or 2	.048 inches.		.048 inches.		
3	.072 "		.064 "		
10	.128 "		.104 "		
	No. of Strands.	Diameter.	No. of Strands.	Diam.	
20	7	.072	7	.064	Main Leads.
25	9	.072	7	.064	
48	19	.064	7	.080	
65 to 75	19	.080	19	.064	

Silver has the highest conductivity of all the metals, and if the price continues to decline, it is within the bounds of possibility that it may be used for winding dynamos, but copper will always be used for electric-light cables; first, because it can be obtained in a purer state than any other available metal, and, secondly, because next to silver it is the best conductor of electricity. It may be interesting to note how much the use of copper wire is extending for telegraphic purposes from the fact that the post-office have recently erected a copper wire, .080 in diameter, from London to Newcastle, 278 miles in length, and by its use have been able to increase the number of words sent per minute from 345, the best result with iron, to 414.

The resistance of all metals is greatly increased by any impurity, therefore it is particularly necessary in purchasing copper wire to see that its conductivity is never less than ninety-six or ninety-eight per cent of the pure material.

THE RUNNING OF WIRES.

From the familiar way in which electric bell-wires are laid about a house one is apt to imagine that electric-light conductors can be treated in the same manner. To do this would not only be committing a great error, which might at any time cause the break-down of the light, but also might occasion a very dangerous fire.

The position of all wires should be carefully planned, and they should be led in such directions that they can be got at for the purpose of testing and verifying the soundness of the joints. To do this the main wires in a building should be carried under the floor above the rooms to be lighted. Having selected well-insulated cable it may be run along or across the joists, being kept from touching the wood itself by some good insulating material, such as asbestos mill-board. The position of each joint or branch should be marked on the removable floor-board which rests over the cable, and this is especially necessary if the cut-outs or fusible safety-junctions are fixed here so that they may be quickly got at to renew the fuses when melted. The branch wires can by this plan be easily led to descend into the rooms below at points where each light is required; if taken down the walls they should not be bricked in, but inserted in a wooden groove which has a removable cover flush with the side of the walls, that can be either painted or papered over to match the decorations, or, if mouldings are already used, the grooving can be covered with a false moulding or beading to match the other. Wires thus protected are not only safe from being injured by settlement or by the gnawing of rats or mice, but being in a known position can be avoided when structural alterations are made. In wiring a house, the connections to the switches or contact-breakers, which are used to shut off the current, must not be forgotten. It is as well to provide for a switch to turn out the lights on each landing independently of the main switches, which should be fixed on a board also containing the cut-outs in the engine or battery room, or where the current is supplied to the house; near the door of each room a small switch should be placed that one or more lamps can be turned on when entering; this is especially useful in bedrooms, obviating the use of the chamber candlestick. In the living-rooms the lights may be grouped; that is, the wires of several lamps can be connected to one switch, and one or two lamps only be united to another; these lamps can thus be kept alight when the room is unoccupied.

ELECTRICAL CONNECTORS AND JOINTS.

Special attention should be paid to these, especially to those connections made with binding screws, which must be firmly screwed up, as bad contact between a wire and a terminal will produce heat and loss of current. The wire should fit the hole in the binding-screw, which should be tightened while the current is passing if found to be loosened by the expansion of the metal due to heating.

All electrical joints, such as those between the two main cables or where a branch lead is taken off, must be carefully made; otherwise the calculations as to the efficiency of the cable may be upset and an efficient installation be spoiled by a faulty junction. Solder alone should never be relied on for electric-light joints. If ever so little heating takes place the solder may be softened by the action of the

[1] A paper by Killingworth Hedges, M.I.C.E., and Member of the Society of Telegraph Engineers and Electricians, published in the *Builder*.

[2] The Volt is the term used by electricians to express the practical unit of E.M.F., electro-motive force, or difference of potential. It is about .976 of a single-cell Daniell battery.

[3] The Ampère expresses the strength or intensity of current. If an electro-motive force of one Volt is used to send a current through a wire having the resistance of one Ohm (*the unit of R, resistance*), the strength of current, if measured, will be one Ampère.

current, which tends to reduce the alloy to its component parts, thus allowing the copper wires to separate, when a dangerous arc will be formed, which will speedily destroy the cable. A joint must be made mechanically perfect, and considerable pressure used to bring the surfaces together; the solder may be then applied to keep the whole air-tight, but in no case should any joints be made except by workmen accustomed to electric-light work.

SHORT CIRCUIT.

The term explains itself, and means that the electric current, instead of going the circuitous course allotted to it, takes the shortest path, where, having no work to do, it causes fire. Accidents from short circuit may be divided into three heads: —

1. One of the conducting wires may either come directly in contact with the return conductor, or something metallic, such as a staple carelessly fixed, may cause an electrical connection.

2. Some good conductor may momentarily touch the unprotected surfaces of two wires and cause an arc to be formed between them, or either one of them may be "grounded;" that is, put in circuit with the earth.

3. The same result may be accomplished by water dripping from one wire to the other, or by a badly-insulated cable being laid in a damp place or on a wet beam.

Accidents have occurred from each of these forms of short circuits, which, however, will never happen if the wire is thoroughly insulated and the protective covering is not damaged. There is one exception, and that is, where water is the cause of the trouble, when only an impervious material, such as gutta-percha, will be a sure preventive. The so-called fireproof insulation is useless if not waterproof; even the lead-tube covering for cables, which has been so highly recommended, appears to be an element of danger. In the mines of La Peronnière, France, a fire was produced by the electric current short-circuiting through the insulation onto the lead envelope, which, being in contact with the damp ground, led away the electricity and speedily burned up the cable.

CUT-OUT, OR SAFETY-FUSES.

This important fitting is, in fact, the "safety-valve" of an electric-light installation, and may be compared to the weak link in the chain which gives way before any damage can be brought about, by excess of current liable to render the conductors and their branches red-hot, and also prevents the evil effect of a short circuit. The Fire Risks Committee's rules describe a cut-out as "a piece of easily fusible metal which would be melted if the current attains any due magnitude, and would thus cause the circuit to be broken."

The Board of Trade regulations state "that this fuse shall be of such a nature as to cut off the supply of electricity when the current exceeds by fifty per cent the maximum current which the service line is intended to supply." It is true that a smaller margin than fifty per cent may be used, but this is not compulsory, and I think should be so, unless the fuse may be absolutely relied on to melt with that excess of current. The plan introduced by Edison of inserting a lead or copper wire into the circuit is particularly bad, as a dangerous arc may be formed before a lead wire, designed to melt with a fifty per cent margin is ruptured. Anyhow, the cut-out should be rapid in its action, and of a material quickly melting at a lower temperature than lead or copper, so that molten particles could not set anything inflammable on fire. In order to ascertain which was the most suitable material, I tried a variety of metals, and found that if their area was much more than a fine wire of two or three millimetres, they were absolutely unreliable, and even then, when melted, threw portions of the hot metal about the room. Lead wire, which is often used by ignorant people, is far the worst, as it oxidizes after a length of time, and gives trouble on account of its expansion and contraction; and the alloys of tin and lead, which conduct the electricity in the same ratio as would separate wires made of their component parts, gradually become altered in resistance by the passage of the current. This is noticeable in whatever form the alloy is used, so that safety-fuses, which have been tested to melt with one hundred ampères, have, after a month's work, melted with seventy-five ampères. Another great disadvantage attending the use of a fuse of large sectional area is the disruptive effect which takes place at the time of fusion. This only applies to the very large fuses, such as are used to protect the dynamos in the Edison system, and so violent is their action that the top of an iron box laid in the streets of New York was displaced by the rupture of a safety-fuse underneath. The difficulty is overcome either by using rods of fine tin wire, or, better still, by making the fuse of strips of metallic foil, the particles of which, when melted, do not take a globular form, and are almost oxidized by contact with the air. After experimenting with numerous foils, I obtained a special alloy of aluminium — a metal which has a great future for electrical purposes, and has the advantage of great tenacity, so that very thin foil can be used. Strips of this foil are placed between layers of mica, due care being taken to allow for the expansion of the foil; the strips are thus built up like the leaves of a book, according to the melting value required. For small currents, the foil is fastened by means of two eyelets to a single strip of mica, which can be easily removed and replaced, even when the current is passing, owing to the high insulating character of the mica.

The use of cut-outs to protect an installation appears to be a crude remedy in that the lamps are generally extinguished when the fuse melts; this, although a small matter where the question of fire is at point, need not be the case if a simple arrangement of "bye pass" circuit be employed, so that the supply of electricity may be automatically reduced by a resistance until a new safety-fuse is inserted. A still simpler plan, and one almost universally adopted in the best installations, is to fix a double cut-out, termed "the duplex pattern," which contains two mica foils, one of which only is used to protect the circuit, but directly it fuses the second foil, having a much higher melting value, can be inserted by turning a small lever. The object of causing the second fuse to carry more current is to prevent the extinction of the lights while the fire is being replaced; however, if the trouble is due to a bad short circuit, both foils will be melted, which is the safest plan and one that should not cause more than half the lights in any room to be extinguished if the system of wiring the lamps from two separate dynamos be employed.

AUTOMATIC CUT-OUTS.

This class of instrument cannot be recommended in preference to the fusible cut-out, in the first place because it encourages carelessness on the part of the attendant, who may allow the current to increase, and, consequently, extinguish the lights without having the necessity to renew a fuse, which would betray the circumstance of the extinction. Secondly, an automatic cut-out may fail if it has been left for a long time unworked, and this mishap is especially to be guarded against with those in which mercury is used to make contact, for the reason that the mercury might be deflagrated, when the fumes would produce very dangerous results.

SAVING OF LAMPS.

The percentage of losses of incandescent lamps is not high, if breakages and similar accidents only are taken into account, but the average total is swelled enormously by the number of lamps which are prematurely burned out by too much current being allowed to pass. It was recently stated, in a paper on the "Electric Lighting of Steamships," read at the Institution of Civil Engineers, that "out of two hundred Swan lamps on board a large passenger steamer, fifty were suddenly broken through a failure of the governor." In this case, all these lamps were fitted with cut-outs made of lead wire on the Edison plan, none of which were melted, although the current was probably one hundred per cent in excess of its proper strength. If sensitive fuses had been adopted the lamps would have been uninjured, and the consequent loss of $4s \times 50$, or $10l$, would have been saved at the cost of the fuses which could have been replaced for as many pence. The interesting report of the life of the electric lamps at the Royal Courts of Justice shows that the average life of lamps burned out, which was 1,631 hours, was reduced to an actual average, after deducting losses, of 1,370, nearly the whole of which must be put down to the weakening of the filament due to an excess current having been passed, as the authorities, to guard against the extinction of a lamp here and there, have replaced the original sensitive fuses by others which only act in the event of a short circuit.

Before concluding this article, it may be interesting to note how some of the fires have occurred in America, where the insurance authorities have reported the electric light to be the cause. In one district of sixty-one miles, there were fifteen fires due to some form of "short circuit," generally due to leaking water or washing floors, all of which would have been prevented by proper insulation and reliable fusible cut-outs. Three fires occurred by short circuits termed "cross arcs" of one wire to another, where uninsulated wires were fastened against conductors. In one instance, the conductor was formed by dust settling upon uninsulated wires, and one damp day it absorbed enough moisture to form the path for the formation of a cross arc, which started a fire. In another instance, the wires were fastened to a damp beam, which was decayed, and burned nearly in two by a smouldering fire. In a third instance, damp brickwork in a tunnel was a sufficient conductor to establish an arc, which did not do any material damage there, but injured the dynamo. These fires were not necessarily destructive ones, as they generally occurred during working hours, and were soon discovered. Electricity, having no smell like gas to betray a leak, shows when it is escaping by the diminished appearance of the lights, caused by the diversion of the system.

The chief element of safety of electric light lies not only in the employment of experienced men to supervise the work of running the wires and arranging the installation, but in having the whole installation carefully tested and reported on by an expert who is independent both of the system employed and the contractor. When thus arranged, it is, in every situation, far safer than gas or any other known illuminant, especially when laid on to our houses from a central station, where any possible danger will be localized, and the whole of the machinery be under constant supervision.

In conclusion, no better proof can be stated as to the increased value put upon electric light by those who have had it installed than by quoting a recent case which came under my special notice, where an action was brought, by the Corporation of a large town, against the contractor for lighting the municipal buildings, who had refused to continue the supply of electricity. The pleadings stated that "the buildings in which the installation has been placed have been expensively decorated with a view of their being used with the electric light only, and these decorations, and also the books in the library, are suffering from the use of gas," — for the absence of the electric light the Corporation claimed heavy damages.

The following draft-form of specification of electrical conductors, leads, fittings, and safety appliances, is published with a view of showing some of the salient features of an installation which require

especial attention; the motive power, whether gas or steam, the dynamos, and the incandescent lamps should also each be the subject of a detailed specification: —

SPECIFICATION FOR CONDUCTORS, SWITCHES, AND APPARATUS FOR PROTECTION FROM FIRE.

Cables, leads, and wires are to be furnished capable of supplying current to —— arc-lamps and —— incandescent-lamps.

These conductors are to be laid and erected in the manner herein specified:

Conductivity.— The specified conductivity of the copper employed in the whole system of conductors to be not less than ninety-six per cent of pure copper.

Covering.— The wires to be covered in such a manner that the covering does not become frayed or loose.

Joints.— All joints are to be made of resin only, and not with killed spirits or any other flux. All wire ends, before joining, are to be properly cleaned, and the strands spliced in a thorough manner and well soldered together.

The joints, when made, are to be covered with a layer of Chatterton's compound, and properly and neatly wrapped with india-rubber tape, so as to leave a smooth surface. Britannia joints are to be used where solid conductors are joined together and are under tension.

Distance apart.— When conductors are run along walls or other exposed supports, their distance apart, from inside edge to inside edge, is not to be less than two inches.

Casings.— When conductors are placed in mouldings or grooved casings, the thickness of the material between each conductor to be not less than a one-fourth inch; and no screws or nails to be driven into this central rib.

Staples.— When conductors are stapled to a wall or other support, no one staple is ever to embrace both conductors, nor are two staples to be placed side by side, but are to be placed alternately.

Walls.— When conductors are carried through walls, or other partitions of a like nature, they are to be encased in asbestos or wooden (varnished inside) tubes of such diameter as to fit easily, but not too loosely. If carried on iron, such as rolled joists, they are to rest on asbestos, millboard, or on varnished wood. No wires to be carried through existing gas pipes.

Insulation — The total insulation of the whole system of conductors, when placed in position, to be not less than five hundred ohms resistance per volt of current.

Insulators.— When insulators are used they are to be of a type previously approved of by the consulting engineers.

Cleats.— Cleats are to be used for holding up the conductors in place when the size of such conductors is greater than a quarter of an inch diameter outside covering.

Capacity.—The capacity of the whole system of conductors to be such that the area of the conductor shall be equal to the area of one square inch for each one thousand ampères to be carried, or approximately one square millimètre for every ampère-and-a-half of current passing through it.

Dielectric.— No covering shall alone be employed for conductors that is capable of absorption of moisture, but india-rubber, gutta-percha, or some approved bituminous compound must always be used in conjunction therewith, and they shall be guaranteed to have an insulation resistance of —— megohms per one thousand yards.

Samples.— Samples of all cables, leads, and wires to be submitted to the Consulting Electrical Engineer for approval before commencing the execution of the contract, as well as all switches, cut-outs, and other materials.

SWITCHES.

Main Switch-board.— A main switch-board, with insulated back to be provided, with switches of the —— type and main cut-outs, which will allow of fusible mica foils being inserted, and arranged to control each separate circuit, and all connections to be made between them and the dynamos. A plan of this switch-board to be submitted.

Branch Switches.—Switches which cannot be left partly on, and which on breaking the circuit show no spark on the working-contacts, are to be provided, and all connections made thereto. They are to be firmly fixed to the walls or supports by screws upon a plug of wood driven into the wall, and are to be of ample size, and best material and workmanship. Rubbing contacts are to be used, and no switch is to contain a cut-out or safety-plug.

MAIN CUT-OUTS, OR FUSIBLE SAFETY-JUNCTIONS.

These are to be of the duplex fusible type, to carry mica foils, which shall give way whenever the current passing through them exceeds the normal working-current by fifty per cent. Each cut-out shall be fitted with a spare mica foil, through which a portion of the current always passes, and be of sufficient strength to pass the whole of the current on the melting of the ordinary working fuse, but shall give way in the event of a short circuit.

Branch Cut-outs.— Branch cut-outs of a type, with protected terminals and eyelet mica foils, are to be provided and fixed firmly to the walls or supports where shown, and in no case are they to be placed between the switch and its lamps, but always as close to the main cable as possible.

Melting-point.— Every branch cut-out shall be so proportioned as to melt with an excess of current not more than twenty-five per cent above its nominal value.

Switch and Cut-out Bases and Covers.—Where required, the beds of all switches and cut-outs to be made of slate or other non-combustible material.

If mica foils are not used, the cut-out to be suitably covered, to prevent any metal being scattered when fused.

Testing.— Samples of all the various sizes of cut-outs to be submitted to the Consulting Engineer for test purposes.

Damages.— Every care is to be taken to avoid all damage to existing fittings, and to all walls, cornices, floorings, woodwork, etc., and the contractor is to make good all cutting-away necessary for the fixing of the above cables, leads, wires, switches, cut-outs, etc., and shall leave the whole work in a neat, workman-like condition.

THE PALACE OF CHANTILLY.

One Bay of Open Mortuary Chapel — Forest Hills Cemetery Boston Mass. Van Brunt & Howe Architects

A WRITER in the *London Pall-Mall Gazette* says:

Whatever may be the political indiscretions of the Orleans princess, all lovers of art must sympathize with the Duc d'Aumale, compelled to leave his beautiful, his unrivalled creation of Chantilly. It is now about twelve years since the heir of Condés commenced the erection of a palace worthy to replace the historic residence of his great ancestors. Since the war of 1870-71 has arisen on the banks of the Nonette one of the most beautiful modern châteaux to be found throughout France, and here have been arranged with perfect taste the Duke's unrivalled collection of works of art. The English guide-books are in a muddle about Chantilly — I speak here not of the charming little town, but of the Duc d'Aumale's residence only. We read and are no wiser than before as to how much of the château remains. The truth of the matter is that, excepting the renowned stables and the exquisite little building of the *châtelet*, all is new and all is the work of the Duc d'Aumale. He has been, if not exactly his own architect, the leading spirit throughout the vast undertaking, not only entering into every detail without, but also arranging the interior of the building, erected as far as was possible on the foundations of the Chantilly immortalized in the pages of Mme. de Sévingé and of Bossuet, the seat of the Condés and Montmorencys. No *chef d'œuvre* of the architect's skill had ever more graceful surroundings. The château, with turrets and pinnacles, copy of the elegant architecture of the Valois period, stands sideways on the canal watered by the Nonette, and on clear days we get delicious effects of light and shadow, a reflected palace as lovely as the more solid reality. In front and behind stretch the quaint old gardens, laid out by the famous Le Nôtre in the time of Louis XIV, marble terraces, orangeries, fountains and statuary in perfect keeping with the gleaming whiteness of the building, itself apparently of marble. Oddly enough, the mind of the much-travelled beholder has to go to the distant shores of the Baltic for a parallel to this spectacle. In the heart of the picturesque little island of Rugen rises the famous palace of Prince Putbus, and it is this that will best bear comparison to Chantilly, if indeed comparisons are possible. Just as dainty a picture as the Italian palace reflected in its crystal lake, just as stately and elegant the terraced gardens and marble fountains, while alike the home of the Pomeranean Prince and that of the Duc d'Aumale is a choice treasure-house of art.

But the historic interest of the last is wanting at Putbus. The similitude holds good with regard to matters picturesque and artistic only. Chantilly is intimately connected with some of the most dazzling pages in French history. To have its chronicles at one's fingerends is to be intimate with a goodly chapter of the history of France. Everybody has read Mme. de Sévigné; everybody knows of the splendid entertainment given by the great Condé to Louis XIV, when Vatel, the cook, ran himself through with his sword because the fish did not arrive in time for dinner. But Chantilly had been a little court under the greatest of the Montmorencys a century and a half before. Here Anne de Montmorency, constable of France, the patron of the fine arts, but, alas! the pitiless foe of Protestantism, held his state when his fortunes were at their apogee, and for five generations Chantilly belonged to that great house. A statue of the fierce old warrior is in course of erection in front of the château. Just as the Duc d'Aumale is the creator of the Chantilly we see, so his ancestor may be said to have created the Chantilly of his own day. But between the two periods have occurred many demolitions and reconstructions, and only isolated portions remain to tell us what the respective homes of the Montmorencys and Condés were like. Thus in the beautiful *châtelet*, or *petit château*, on which the present façade is built, we have intact a perfect specimen of the graceful architecture of the Valois period, while the magnificent stables, in appearance looking like a palace, date from the eighteenth century only.

The Chantilly of the great Condé, Mme. de Sévingé, of Bossuet, of Louis XIV and his Court has disappeared altogether. The guide-books state erroneously that Chantilly was destroyed by the revolutionary mob. The truth of the matter is this: When in 1789 the Princes of the House of Bourbon took the lead in the general emigration, the populace was greatly incensed. The château was converted into a prison from 1792 to 1794, but it was the Convention that decreed the destruction of Chantilly on the ground that it was a fortress. The *petit château* and the Pavilion d'Enghein were spared and restored intact to the House of Bourbon Condé in 1816.

The history of Chantilly as a seignorial residence goes back to a very early period, but it is the Montmorencys who have endowed it with such historic interest. To the great Anne we are indebted for the priceless art treasures now contained in the chapel, the exquisite series of portraits on glass, the marvellously beautiful altar-piece, and the panels in carved wood — all *chefs d'œuvre* of the Renaissance. In 1875, as we have said, the Duc d'Aumale began the erection of the modern château on the foundation of the old and now complete one. A brilliant soldier, an accomplished writer, art collector and bibliophile, he was enabled, thanks to the generous indulgence of the French Government, to remove his household gods from the banks of the Thames to those of the Nonette. Enlisting into his service skilled artists and artisans, he forthwith erected at enormous cost a Chantilly as splendid as that described by Bossuet and Mme. de Sévingé. The great charm of the place is the purity of taste displayed throughout, and the subservience of parts of the whole. The design was planned with the utmost care, and as far as possible the plan of the former building was adhered to. Hither have been brought the famous collections from Twickenham, the pictures, works of art, and magnificent library, and as being added to from time to time, Chantilly promised to become one of the most splendid residences in Europe. Quite lately the Duke acquired for £25,000 — a bagatelle to a man of his colossal wealth — the Earl of Dudley's famous Raphaels. Besides a historic portrait gallery of great interest, the great masters of Italy and the various schools of French art are here worthily represented. The Poussins, the Ingres, the Greuez, the Delacroix, the Décamps, form a collection worth making a pilgrimage to see. Then there are Raphaels, Da Vincis, Titiens — in fine, the Duke has not only been one of the most assiduous, but one of the most fortunate collectors in this world. There are also magnificent Beauvais and Gobelins tapestry, faïence, miniatures, marqueterie, engraved gems and jewelry, enamels, plate — not an art is there but is here represented, and in the choicest period. The library is in itself a museum, containing rare old editions in choicest bindings, alike ancient and modern. The arrangement is very elegant and convenient, the upper shelves being reached by light galleries.

Choice as are the art treasures of the Duke's own collecting, and splendid as is the accommodation provided for them, it is in the heirlooms of the Montmorencys that the historic interest of Chantilly culminates. An elegant little chapel has been built inside the château, and here, in a very small compass, we may learn, if anywhere, what French art was like under the Valois.

The two windows of old stained glass are in reality a series of family portraits, hence their interest and importance. Here is the terrible Anne — never man with woman's name less endowed with womanly tenderness! — with his four sons, in company of John the Baptist, all piously kneeling, while in the window opposite are portrayed Madeline of Savoy, his wife, with four of her daughters, having for saintly company St. Agatha. The entire family of this pair numbered twelve. By a freak of fortune the foremost figure of these historic groups was deprived of his head. For the portrait of the Constable, which has been supplied, we are indebted to the other numerous likenesses in existence. There is notably the famous medallion in wax at the Louvre, and the still more famous enamel of Léonard Limovsin. Anne de Montmorency also figured as the god Mars in the celebrated enamel, after Raphael, of the same artist, "Le Banquet des Dieux," which formed part of the Fountaine collection, and lately fetched 7,000 guineas. The delicacy and finish of these portraits are remarkable, and every detail of costume is given with the most minute exactness. The altar-piece is an elaborate work carved out of fine-grained limestone and ornamented with delicate bas-reliefs; to Jean Buliant is attributed the former, to Jean Goujon the latter. Both stained-glass and altar-piece were originally at Ecouen, also an appanage of the Montmorencys. The series of panels in stained wood which adorn the sides of the chapel are equally interesting, and have fortunately been preserved intact. The Constable was a friend of the worthless Valois King Henry II, and highly suggestive of the morality of the epoch are the emblems of Diane de Poitiers, the king's mistress, found so frequently here, bow and arrows and a crescent. The date, 1548, is inscribed in one of the panels. The subject is the lives of the Apostles. We are reminded by these exquisite panels of the perfection to which the decorative arts had attained under the Valois régime — some compensation for political and social immorality hardly outdone in the pages of history. The truth of the matter is that during the sixteenth century, in every branch of the decorative arts, France reigned supreme. What variety, what wealth, what taste were seen in every object then constituting luxury, furniture, ornament, dress! What technical skill, what purity of design, what wealth of imagination abounded! Here, then, for a few brief years the heir of the Condés has held his state; and here without doubt he might have remained but for dynastic intrigue and indiscreet ambition on the part of his family. It is impossible for any one intimate with French history as it is being enacted under our eyes to ignore the above fact or to feel the least surprised at the step being taken by the French Government in the matter of the Pretenders. My only wonder is that the expulsion has not taken place long ago. For the Duc D'Aumale, elderly, a widower and childless, thus compelled to remove his carefully amassed treasures, much sympathy will be felt, but entirely of a personal and artistic kind. The Republic behaved at least as generously as could have been expected. It restored to the Orleans Princes the millions confiscated by Napoleon III, it permitted all members of the family to settle themselves in France and enjoy the privileges of other citizens. When this generosity was abused, the government of France had no other recourse but to resort to drastic measures.

COMMUNICATIONS

[*We cannot pay attention to the demands of correspondents who forget to give their names and addresses as guaranty of good faith.*]

THE EFFLORESCENCE ON BRICKWORK.

BROOKLYN, N. Y., July 1, 1886.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — I write to ask if you know of any way of treating new brick fronts by which the white efflorescence may be removed and permanently prevented from again appearing. I am told by one of your subscribers he thinks you have already made public such information, but I have not been able to find it. Have been seeking instruction on the subject for some time past; have read a great many learned articles on its causes and composition, and am in a maze of sulphate crystals, magnesia, silica, etc., etc., but not a ray of light as to its cure.

If you can dispel my darkness in any way it will be gratefully acknowledged by Yours truly, J. W. ROWE.

[YOU will find a satisfactory explanation of the cause of the effect and the remedies that can be applied in the issues of the *American Architect* for November 1 and December 6, 1884 — EDS. AMERICAN ARCHITECT.]

ADVICE TO A STUDENT WHO HAS $1,000 TO SPEND.

AKRON, OHIO, July 5, 1886.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs,— Will you kindly state, through the columns of your journal, or by letter, what you consider the best course for a young man to pursue, or the best place for him to g to obtain proper training in architectural design and construction. The profession, even in the West, has now so developed that one cannot serve a year or two in an office and then hang out his shingle a full fledged "architect" as of old.

After six months' work here, coming fresh from college, I thought I knew it all, but now, three years later, it seems that I have only learned to know that I know nothing.

With a thousand dollars at command, what shall I do?

Perhaps, as a young draughtsman asking your opinion, I voice the desire of many others of your readers.

Respectfully yours, GEO. A. NEWCOMB.

[THE fact that our correspondent has learned that he knows nothing of architecture after three years of office-work disposes us to think that he really knows more than he thinks he does, and in place of advising him, as we should in most other cases, to enter some regular school of architecture, preferably the Ecole des Beaux-Arts, we think it safe to recommend him to use the greatest portion of his thousand dollars for an economical trip to Europe. If, after seeing England, Scotland and the South and North of France—more than this would be mere luxury — he can so arrange things as to spend three months or so in a Paris *atelier*. and can use the time in making studies, after the school programmes, carrying each one through the preliminary stages only, that is, spending not more that a week or ten days on each, we believe he would get as much benefit from the *patron's* criticism as if he spent a year in elaborating the designs after the usual method. If he is not sufficiently proficient in French to do this to advantage, we recommend that he should come back to Boston before his money is all spent and pass the same length of time in doing the same thing under the advice of Prof. Létang of the Institute of Technology. It would be well to set aside a small sum to be used in the purchase of photographs and books which can be bought to better advantage on the other side of the ocean than they can here.— EDS. AMERICAN ARCHITECT.]

THE ALBANY CAPITOL FOR ONE DOLLAR. — A dispatch to the New York *Times* announces that the Capitol at Albany is advertised to be sold September 15. It seems that the county treasurer has a charge against the building for a water-tax of $1 and proposes to sell it with other delinquent property. To the original amount due $2 have been added for advertising, 50 cents for auctioneer's fees and sundries sufficient to make up the sum of $3.74. It is suggested by the *Times* that some New York paper should undertake the task of raising money to pay off this indebtedness and free the new Capitol from danger. We protest against any such meddling. If there be any process of law by which the great public calamity can be sold and pass out of the hands of the State, then let the law take its course by all means. The building has cost, in round numbers, $17,500,000, and might be worth $500,000 to private parties; but the State would be well rid of it for a debt of $3 74. By all means let the treasurer of Albany County go on with the sale.— *Rochester Post-Express.*

NOTES AND CLIPPINGS

A Useless Long-range Gun.—Prince Lichtenstein was formerly well-known in London, and his first wife was Miss Fox, the adopted daughter of Lady Holland. He some time ago purchased a Krupp gun of large calibre, which he intended to mount in one of the fortresses of his dominions. When the officer commanding the Lichtenstein artillery attempted to make arrangements for an experimental trial of the monster piece of ordnance, it became evident that it would be impossible to avoid firing the projectile into somebody else's territory, which would have been probably regarded as an act of war, and would have invited reprisals. The gun being thus perfectly useless, it was by order of the Prince converted into an equestrian statue of his Serene Highness, which now adorns the public square in his capitol.—*London Figaro.*

The Sonnblick Observatory.—What will be the highest observatory in Europe is now being erected on the Sonnblick, in the Tyrolese Alps, a mountain 10,000 feet high. Some mines are situate on the slopes of the Sonnblick at a height of over 5,000 feet. From this spot a wire ropeway, practicable for passengers, leads up to a height of nearly 8,000 feet. Here a house has been erected for miners, who reside there during winter. Thence the summit of the Sonnblick is reached by an easy ascent over a glacier in three hours. The observatory now being erected on the summit will consist of a block-house, flanked by a massive stone turret 40 feet high. The walls of the tower have been made of an enormous thickness, and the block-house is anchored to the rock by steel-wire cables. Wood has been chosen for the construction of the house, because it keeps out cold better than stone. The tower will be fitted with all the instruments used in meteorological science. As there is great danger to the building from the terrific thunder-storms which rage round the summit, the observatory is protected not only by three lightning rods, but also by a lightning-proof fencing. The solitary resident observer is one of the miners, who is now undergoing a course of instruction in meteorology. He will keep up communication by telephone with the miners' house, 2,000 feet below him, whence another telephone wire, 15 miles long, leads to Rauris. From the latter place his daily record of observations will be telegraphed to Vienna. Sonnblick Observatory will be known in future as a meteorological station situate at a higher elevation than any in Europe — higher than those on Mount Etna, the Pic du Midi (Pyrenees), and the Säntis (Canton of Appenzell. — *Engineering.*

A Tunnel to Prince Edward Island.—A scheme for constructing a tunnel to connect Prince Edward Island with the mainland is to be brought before the Canadian Parliament next session. It is proposed to build on each side of the straits piers through which a tube is to be driven for some 2,800 feet, the total length of the tunnel being 6½ miles. The bottom of the straits shows a very good road-bed, the depth of water varying from 36 feet on the island side to about 80 feet in the middle of the straits, and thence ashore on the New Brunswick side to 10½ feet. The tunnel is to be 18 feet in diameter, and to be constructed of heavy sections of chilled white cast-iron, 4 inches thick or more, according to depth. Mr. H. H. Hall, of the Submarine Tunnel and Tube Company, of New York, is the patentee of the process of casting the tubes, as well as of the chilled white metal used. It is estimated that, at the present market price, the cost of the iron for the tunnel would be about 17*l.* per linear foot, making the total estimated cost of the work close upon 1,000,000*l.* The metal is stated to be non-corrosive in sea water, as shown by its exposure for twelve years in the harbor of Sydney. The sections are bolted together by inside flanges, making a water-tight rust-joint with a smooth exterior. A connection with the surface could be maintained by a vertical shaft, if desired; but as a railway could be laid through the tunnel as fast as it is built, all the material used could enter that way, a supply of fresh air be obtained, and communication maintained with the shore. Where the depth of water will allow of the obstruction to the channel, the tunnel is to be laid on the natural bottom of the strait; otherwise a channel is to be dredged, in which the tube is to be sunk.—*Engineering.*

The Age of Trees.—The Prussian Chief Forester Gericke, in a recent number of the *Forstliche Blatter*, declares it to be a fable that there are trees in the German forests which have lived for a thousand years. Even the so-called "historical trees," he says, to which an age of 700 to 800 years is imputed, are nothing but "hollows surrounded with bark, vegetating only as ruins." No tree can reach so great an age in Central Europe and remain healthy. He has been at the pains to make inquiries at all the German, Austrian and Russian forest academies; and comparing their reports with his own long researches, he has compiled a table of the comparative ages of the different sorts of trees in Central Europe. The highest age is attained by the pine; but after it has reached the limit of sound life, it declines more rapidly than any of the leaf trees, which continue vegetation long after they have begun to decay. The oldest pine tree, judging by its annual rings, reaches an age of 570 years. The next in age, the white fir of the Bohmerwald, is 429 years old. The larch, in Bavaria, was at its oldest in 274 years. The oldest sound oak, which is at Aschaffenburg, is 410 years of age. The oldest red beech, also at Aschaffenburg, is 245. The highest point of healthy age with other leaf trees is as follows: The mountain maple, in Bavaria, 224 years; the birch, 160 to 200 years, in Finland; the ash, 170 years, in Silesia; the elm, 130 years, in Silesia; the aspen tree, 219 years. The most frequent among the so-called "historical trees" in Germany are lime trees (linden). The renowned Linden of Neustadt-on-the-Kocher, in Wurtemburg, is known by the local chronicle to have had its branches supported by 67 strong staves in the year 1448, so that it must even then have been a venerable tree. It has now seven horizontal branches, which are supported at from 5 to 7 feet from the ground by stone columns. It is reputed to be over 700 years old, but it can hardly be said to be alive; it is quite hollow, and is supported by internal as well as external masonry.

TRADE SURVEYS

The encouraging feature in this week's trade review is to be found in the instructions to manufacturers of all kinds of building material to hasten forward deliveries on the contracts placed during the second quarter of the year. Iron and steel makers, lumber dealers and manufacturers, dealers in saw-mill and planing-mill products, in builders' hardware and in all other branches, have, within a few days, been requested to complete deliveries of considerable quantities of material which is wanted for immediate building purposes. It is ascertained that it is the intention to push building operations very actively this month and next. Besides this, very active work has been begun on railroad building in the West and South. Work on public buildings all over the country is also being pushed rapidly forward. Some few architects and builders, whose opinions have been asked for, state that the possibility exists that the spurt in building may set in late in the season. This may take place. It is ascertained that a great deal of work that was thought of, if not really projected early in the year, has not yet been undertaken, and that it is being held back for one reason or another, or perhaps for no reason at all. The prudent builders are therefore anxious to complete work in hand in order to be ready for emergencies. Real estate operations have been prosecuted with a great deal of activity through several New England States and in New York. According to trade statistics, it appears that a much larger amount of work has been done this year than last, and if the present rate of progress continues, the figures will be fifty per cent in excess of last year. Philadelphia is way ahead. Pittsburgh is quite active. In Cincinnati, Cleveland, Columbus, and in three or four smaller Ohio towns, a great deal of work is being done in shop, mill and house building. In Chicago the builders have survived the check given to enterprise, and are now very busily at work. The same is true in Milwaukee, Springfield and St. Louis. Cities west of the Mississippi are also picking up, and iron, nails, steel, lumber and builders' hardware are being forwarded freely from Chicago and St. Louis to builders and dealers. The iron trade just at this time is rather dull. The pig-iron production, however, has reached its highest-known point of 121,000 tons per week, which is something over 6,000,000 tons per year. Prices are very firm and the trade outlook is said to be gratifying for all kinds of material, particularly for merchant steel, steel rails, old rails and pipe iron. The greatest demand prevails for skelp-iron and wrought-iron pipe in Western Pennsylvania and Ohio. The bridge works are also full of orders for the present, and it is believed that the coming autumn will be a very active one with bridge-builders, as it assuredly will be with railroad builders. So far this season about 1,800 miles of main track and sidings have been constructed, which leaves in the neighborhood of 5,000 miles of projected road yet to be built. Railroad labor is in active demand, and material is being called for from mills, car-works, bridge-works and locomotive-works. A few contracts for locomotives were placed a few days ago, and the car-builders have also been requested to submit figures for desired work on freight, passenger, coal and cattle cars. The demand for lumber is reported as rather moderate, but it simply means that contracts for future delivery are not being placed at present writing. It is known, however, that the requirements are heavy and that the entire lumber capacity will be kept quite busy on contract work. The Western architects furnish a few encouraging points this week concerning contract work, and the builders of small houses and shops also are reported as quite busy with new work. The supply of money for reproductive operations is abundant. Clearing-house returns show an increase as compared with previous weeks and as compared with the same weeks last season. The dry statistical returns furnish very encouraging and instructive lessons and mean simply that the country is gaining in consumptive capacity and therefore in productive. Within a week or two the makers of special machinery for mills, mining, and large manufacturing purposes have booked a number of fresh orders. Textile manufacturers have also ordered liberally within a few days, and agents of large textile machinery manufacturing establishments are now about closing contracts, which will make work at the shops more abundant than at any time within eighteen months. The supply of building material, such as laths, shingles, nails, hardware, cement, etc., is equal to the demand, but not beyond that. Prices are preserved at spring quotations with a few exceptions. No matter in what industrial channel an observation is taken, it is found that this year's production is greater than last; that prices are steadier and that the productive demand is more encouraging. Traffic between the Northern and Southern States is also on the increase. The manufacturers in the South have been greatly encouraged by the demand and prices of the past six months, and it is apparent that the encouragement that has been extended will be followed up by additional investments on a large scale. English capitalists are looking very carefully into Southern opportunities. New plants are being projected and constructed in Tennessee and Alabama. Four or five blast-furnaces are to be built, two rolling-mills, several manufacturing establishments; besides coke-ovens are to be built, and machine-shop capacity for supplying railroad requirements is to be provided at several points. This broadening out is an encouraging feature to manufacturers throughout the New England and Middle States. The same spirit of enterprise is extending into the West, and prominent lumber dealers in Chicago and in the Northwest report through their travelling agents that they have excellent prospects for placing large supplies of lumber during the coming three or four months. Nails are quoted at $1.80 to $2 at mill in New York and Pennsylvania; merchant iron at one and one-half to two cents per pound; muck bars $27; forge iron $15 to $16 50; foundry iron $17 to $20, according to quality. Several large Pennsylvania companies are sold three months ahead even now. All the rail-mills, wrought-iron pipe mills and skelp mills are well supplied with business and will be run with orders three months ahead to the end of the year. Steel rails are selling at $34 to $36; iron rails $19 to $20. Lumber has not changed in prices for good quality for several weeks. Discounts on hardware and barbed wire and on carriage and wagon material have not been shaded although the demand for the past sixty days has tempted some makers to break combination rates. There is still a tendency among manufacturers to combine to preserve the present low prices against the possibility of secret cutting. The anthracite coal trade is weak. The vessel owners are concerned over the competition of outside tonnage, which refuses to be bounded by the rates they have established, but at a meeting held recently at Philadelphia the Association decided not to reduce rates, but wait for its share of business, until after a revival of trade, which it thinks will set in before the close of the month. The striking spirit has almost subsided. At the same time there are rumblings among the laborers of the country because of the conservative course announced by their leaders, with reference to striking and boycotting. The unadulterated purpose of organized labor is to strike, but under the conservative management of the leaders this purpose has been set aside. It remains to be seen whether the organized workmen of the country will accept the advice and policy of their leaders and submit all disputes to arbitration.